

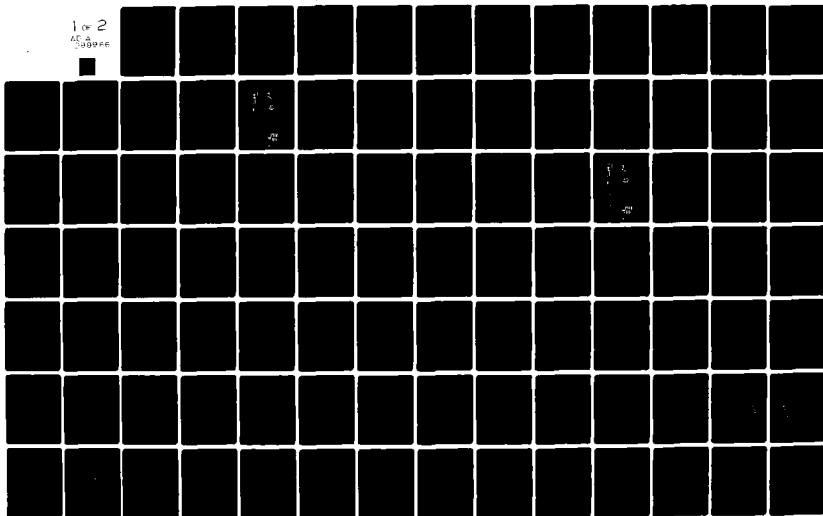
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MIAMI INTERNATIONAL AIRPORT DATA PACKAGE NUMBER 5, AIRPORT IMPR--ETC(U)
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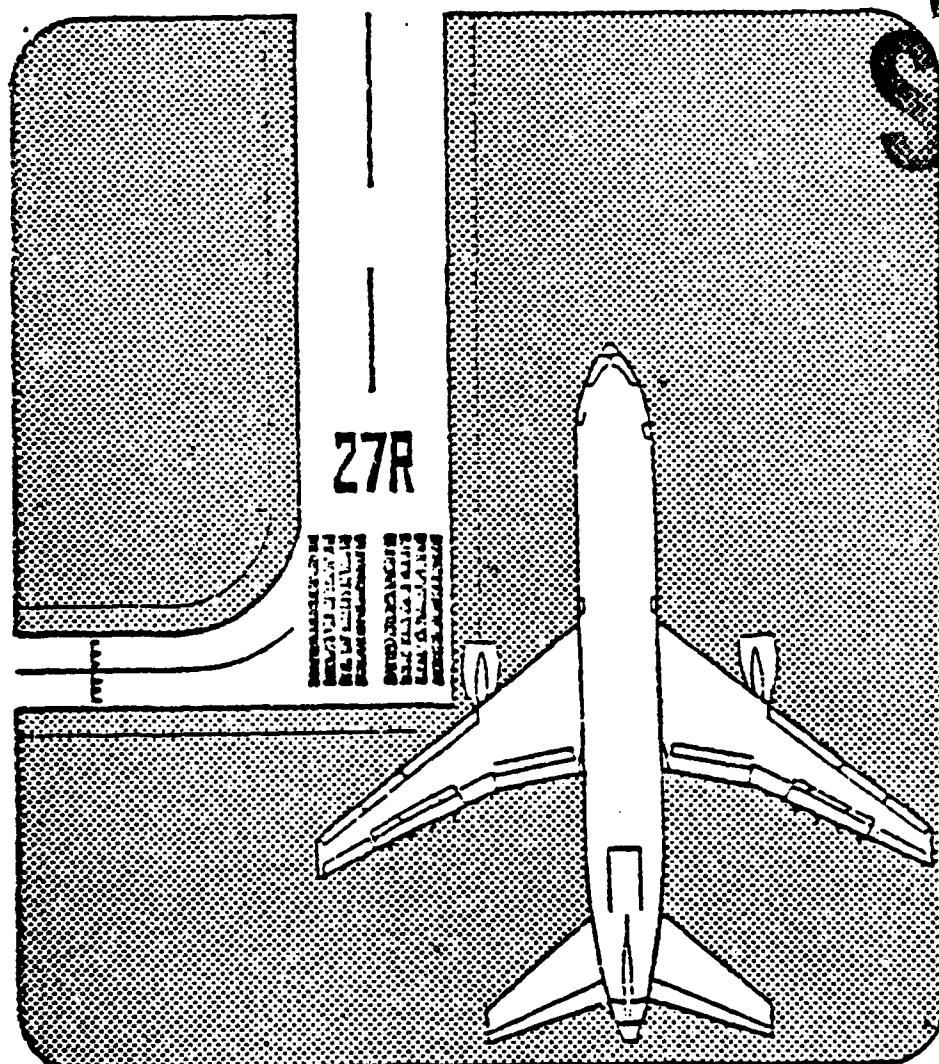
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MIAMI INTERNATIONAL AIRPORT

DATA PACKAGE NO. 5
AIRPORT IMPROVEMENT
TASK FORCE DELAY STUDIES



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MIAMI INTERNATIONAL AIRPORT.

Number 1

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AIRPORT IMPROVEMENT TASK FORCE DELAY STUDIES.

FEBRUARY 1980

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Prepared by:

ANALYSIS BRANCH, ANA-220
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411863 dr

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 Miami International Airport
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Attachment A

SIMULATION MODEL
CALIBRATION OUTPUT DATA

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This section presents the final calibration output for Miami by showing comparisons between it and the field-data from which the calibration input schedule was derived.

Table 1 summarizes the flow rates, delays, and travel times on an hourly basis. Figures 1-5 show the results plotted on a quarter-hour basis.

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Table 1

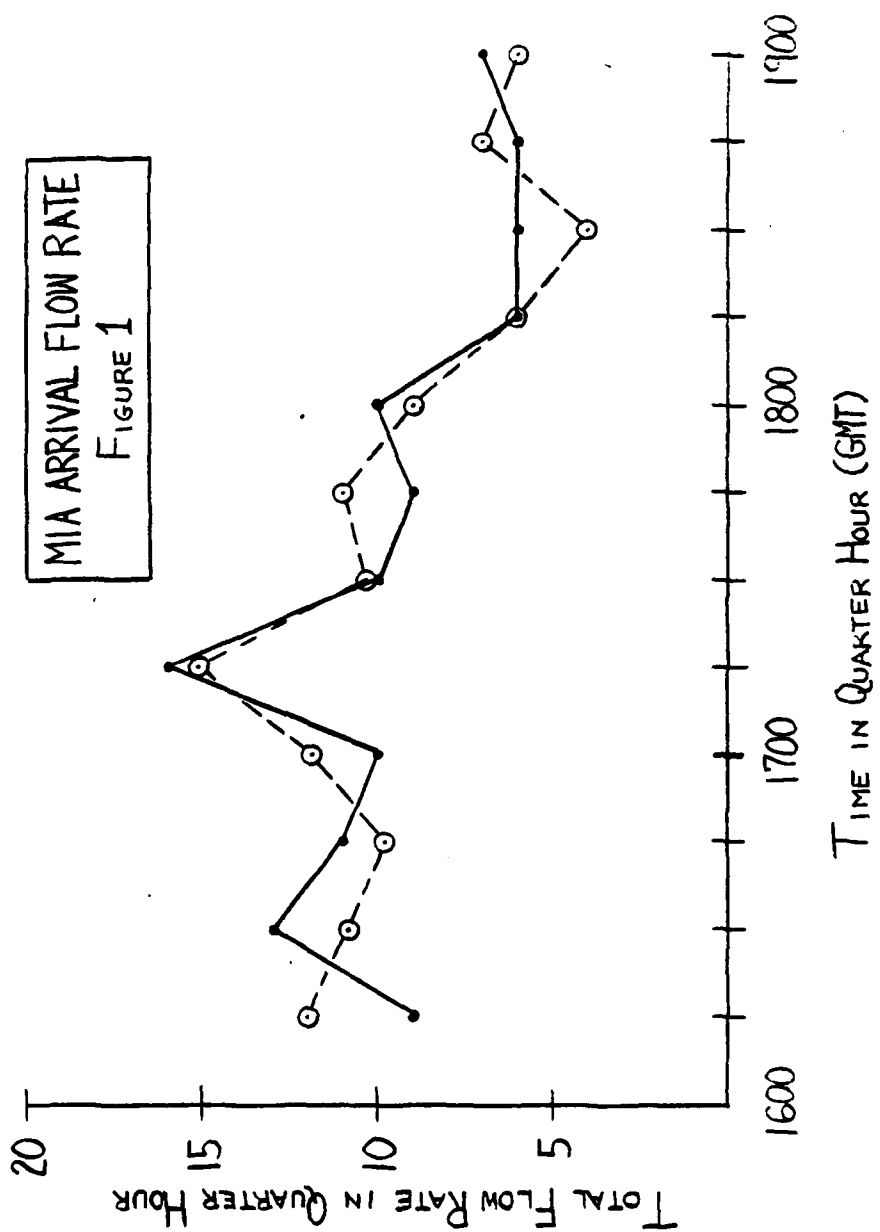
Hourly Comparison of Output Data
for Simulation Model Calibration

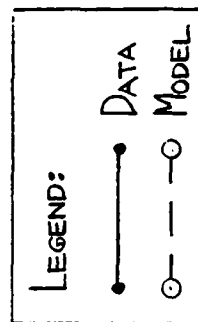
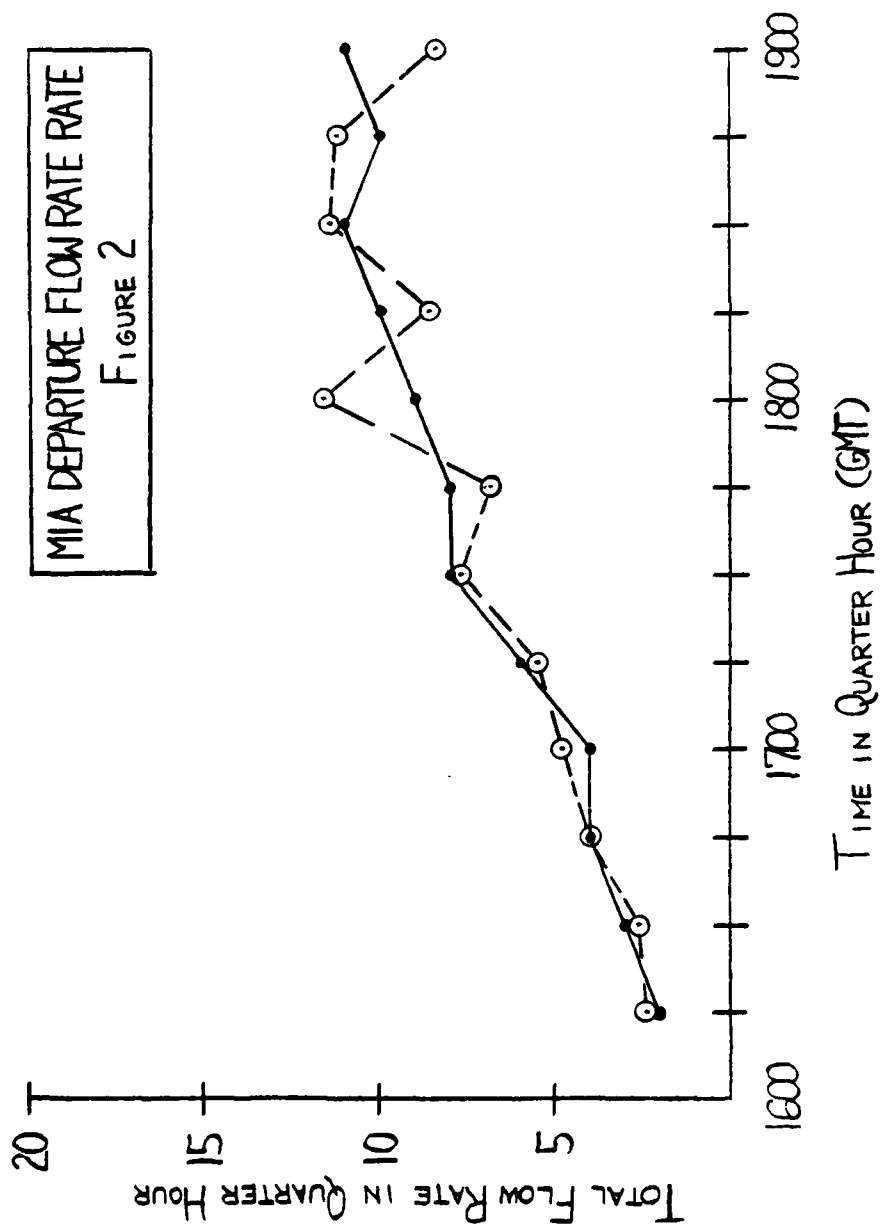
Time (GMT)	Arrival Flow Rate (a/c per hour)			Departure Flow Rate (a/c per hour)		
	Data	:	Model (S.D.)	Data	:	Model (S.D.)
1600-1700	43.0	:	44.6 (0.52)	13.0	:	13.8 (0.42)
1700-1800	45.0	:	45.4 (0.52)	31.0	:	31.6 (0.70)
1800-1900	25.0	:	23.0 (0.00)	42.0	:	39.6 (0.52)

Time (GMT)	Average Arrival Air Delay (min.)			Average Fix to Threshold Travel Time (min.)		
	Data	:	Model (S.D.)	Data	:	Model (S.D.)
1600-1700	1.97	:	0.77 (0.09)	12.56	:	9.36 (0.09)
1700-1800	2.29	:	1.79 (0.12)	11.96	:	11.38 (0.12)
1800-1900	1.55	:	0.19 (0.03)	11.24	:	10.12 (0.03)

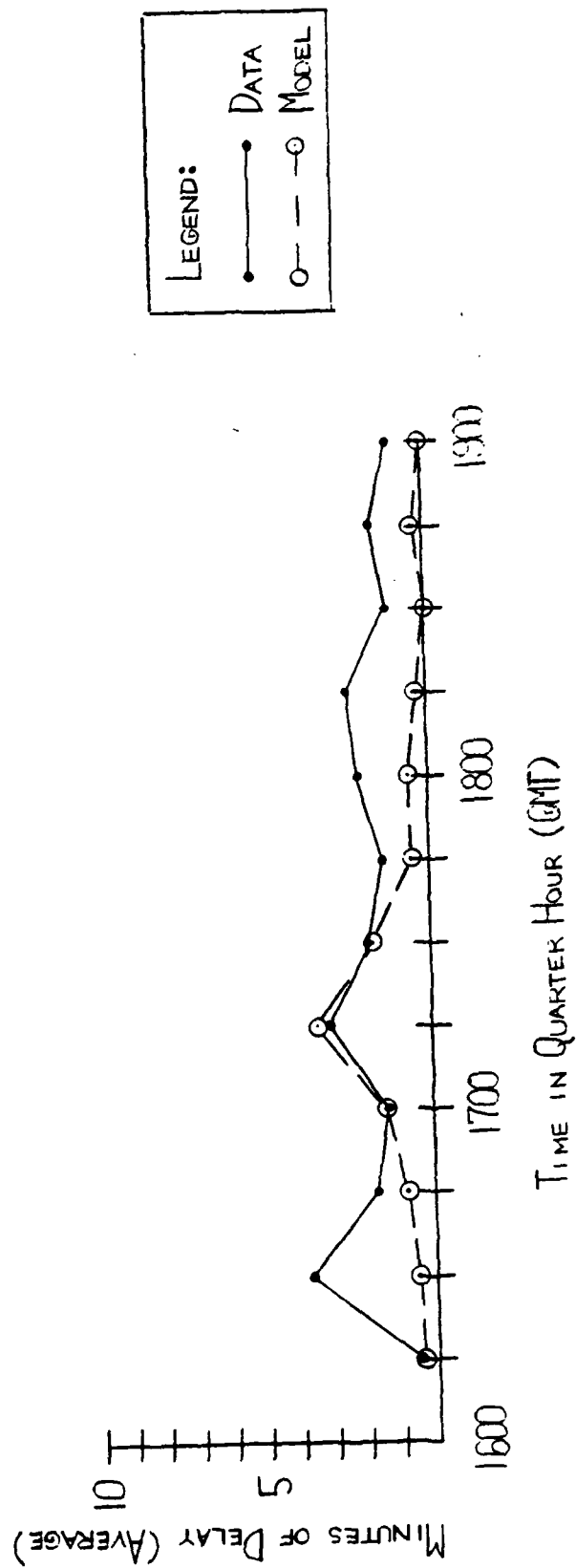
Time (GMT)	Average Arrival Threshold to Gate Travel Time (min.)			Average Departure Gate to Roll Travel Time (min.)		
	Data	:	Model (S.D.)	Data	:	Model (S.D.)
1600-1700	2.43	:	3.19 (0.07)	5.91	:	4.58 (0.36)
1700-1800	3.13	:	3.12 (0.09)	6.62	:	6.56 (0.34)
1800-1900	2.92	:	2.81 (0.09)	5.91	:	5.64 (0.11)

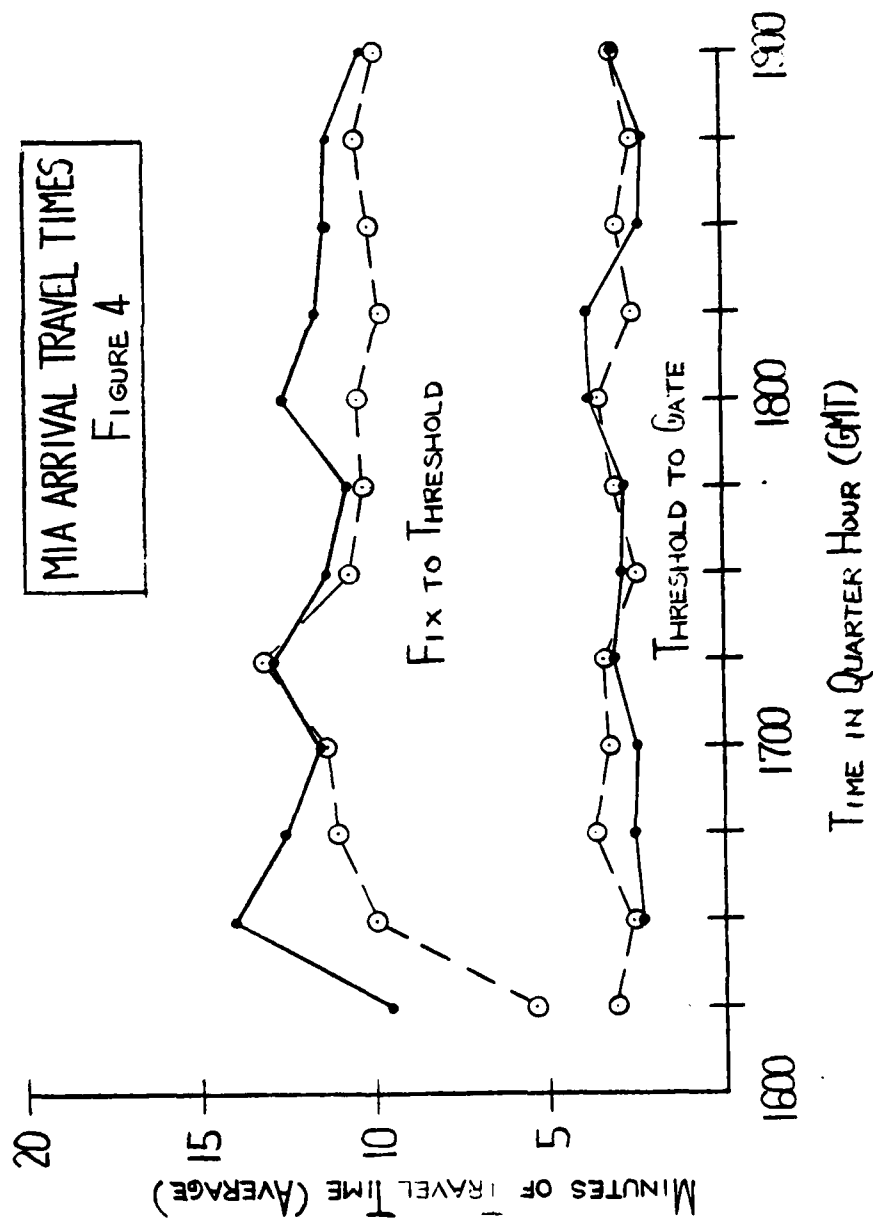
Data Package No. 5
Miami International Airport
Airport Improvement Task Force Delay Studies
February 1980



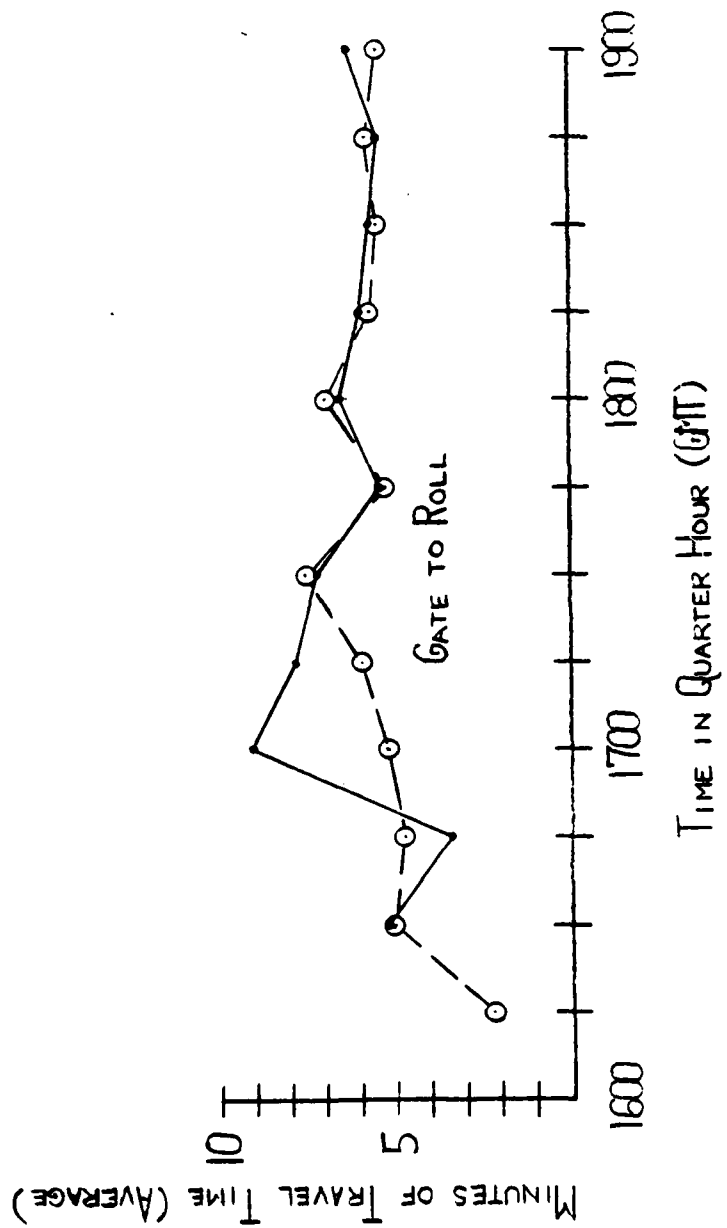


MIA ARRIVAL AIR DELAY
FIGURE 3





MIA DEPARTURE TRAVEL TIME
FIGURE 5



Attachment B

CONFIGURATIONS A AND B
MODEL INPUT DATA

Data Package No. 5
Miami International Airport
Airport Improvement Task Force Delay Studies
February 1980

This section presents the Airfield Simulation Model input data as applied to the experiments in this report. Variation of the inputs controlled the experiments to reflect the desired conditions of each test.

Primarily, aircraft demand schedules (1) and separations were varied in accordance with the runway configuration, weather and ATC System scenario of each experiment.

The basic Configuration A (easterly) and Configuration B (westerly) model input data follows. Aircraft separations are listed under each configuration for all conditions used in the experiments.

Figure 8 closes this section, showing the link-node diagram used to develop the route structure for each experiment.

(1) See Miami Data Package No. 4 for demand schedule summaries.

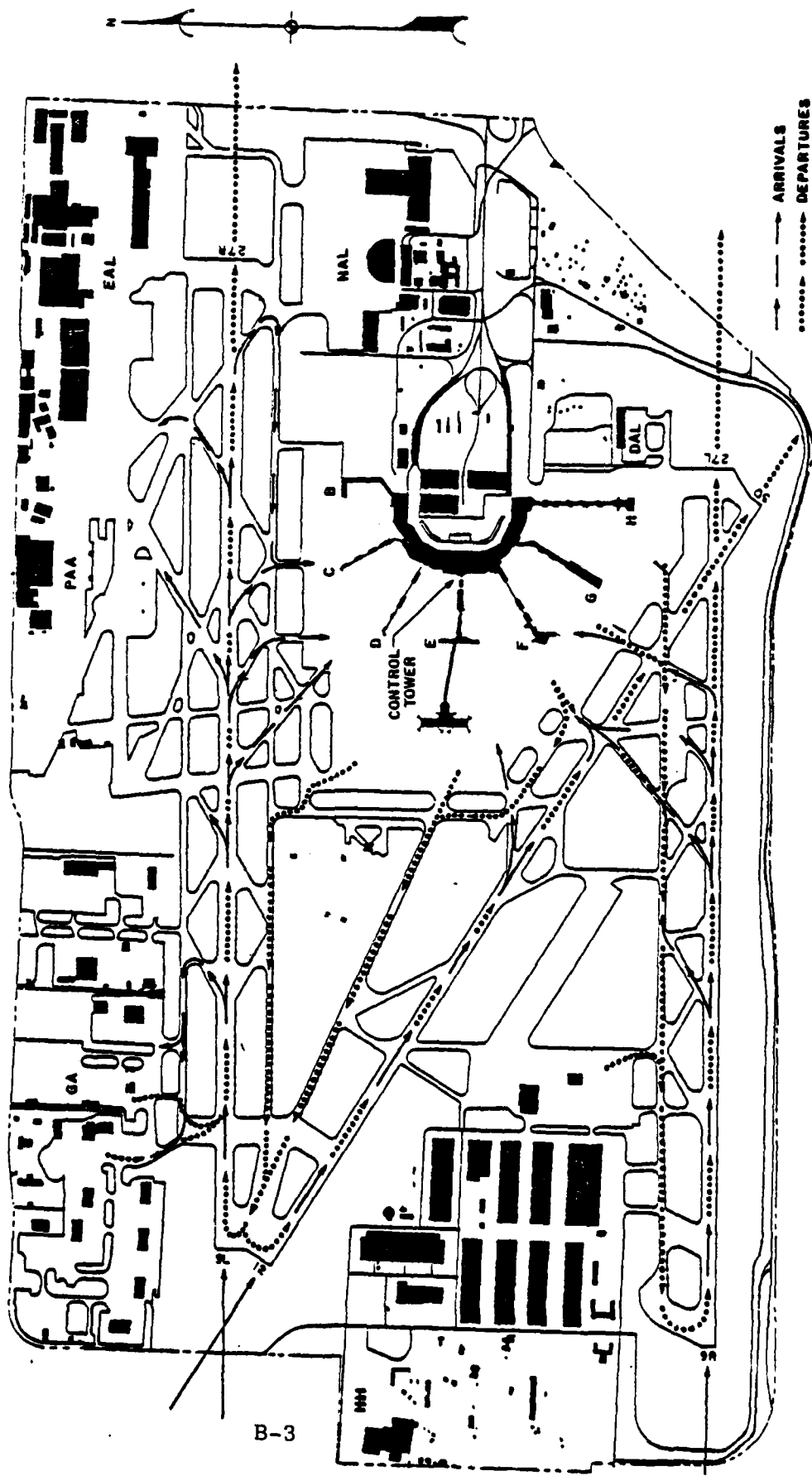


Figure 6
MIAMI EASTERLY CONFIGURATION

CONFIGURATION A MODEL INPUT DATA

MIAMI INTER. AIRPORT EXPR.-1 ROUTES=1978 CONFIG=78VFR1 DEMAND=78

NUMBER OF RANDOM NUMBER SEEDS

10

RANDUM NUMBER SEEDS

92651 91921 69011 92157 14577 10493 27011 40961 15011 63661

START TIME AND FINISH TIME

118 0 208 0

PRINT OPTIONS

F F F F F F F

NUMBER OF AIRLINES

17

AIRLINE CODES

IA EA DD FF GG HH CI C2 F1 F2
F3 FA IT OT JT PT GA
NUMBER OF RUNWAYS

7

RUNWAY NAMES

9R 9L 12

RUNWAY END LINK NUMBERS

412 432 421

RUNWAY CROSSING LINKS--CLEARANCE TIMES FOR A/C CROSSING ACTIVE RUNWAY

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

19A 2 27. 38. 33. 30. 22. 22. 25. 30. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

22R 2 47. 51. 55. 66. 41. 44. 46. 58. 30. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

269 2 51. 53. 60. 73. 44. 48. 51. 59. 30. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

145 2 61. 61. 66. 79. 59. 59. 65. 77. 30. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

305 3 33. 36. 42. 44. 30. 32. 33. 37. 30. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

530 3 33. 36. 42. 44. 30. 32. 33. 37. 30. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

277 3 55. 59. 65. 73. 48. 52. 56. 66. 30. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

266 3 55. 59. 65. 73. 48. 52. 56. 66. 30. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

276 3 55. 59. 65. 73. 48. 52. 56. 66. 30. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

120 3 60. 69. 71. 73. 52. 57. 62. 73. 30. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

26C 3 60. 69. 71. 73. 52. 57. 62. 73. 30. 30. 30. 30.

RUNWAY CROSSING LIMITS--OCCUPANCY TIMES (SECS)

CLASS	TIME
1	20.00
2	20.00
3	20.00
4	20.00

RUNWAY CROSSING TIME AND INTERAPPIVAL GAP

LINK	DELAY	MEAN	STD DEV
198	1.50	1.00	.50
228	1.50	1.00	.50
259	1.50	1.00	.50
345	1.50	1.00	.50
305	1.50	1.00	.50
530	1.50	1.00	.50
277	1.50	1.00	.50
266	1.50	1.00	.50
276	1.50	1.00	.50
120	1.50	1.00	.50
280	1.50	1.00	.50

NUMBER OF EXITS

23

DISTANCE IN FEET FROM THRESHOLD TO THE EXIT TAXIWAY (EXIT LINK NO. VERSUS DISTANCE)

311	1120.0	255	1232.0	321	2470.0	329	2682.0	719	3630.0
302	4222.0	316	4400.0	284	4799.0	287	4972.0	270	5110.0
259	5732.0	323	5769.0	290	5992.0	273	6140.0	272	6650.0
291	6702.0	280	6980.0	266	6689.0	282	7589.0	121	7590.0
298	8052.0	178	9200.0	296	9292.0				

NUMBER OF HOLDING AREAS

1

HOLDING AREA NUMBERS

90

NUMBER OF G/A RASING AREAS

6

G/A RASING AREA NUMBERS

9	16	17	18	19	20
---	----	----	----	----	----

AIRLINE GATES

	4	5	6	17	18	19	20	21	22	23
JA										
EA	1	2	3							
DD	3	4								
FE	6	7	21							
GG										
HH	5	6	7	8						
CI	7	8	9	10						
C2	3	4	9	17						
F1	6	8	9	17						
F2	17	18	19	20						
F3	14	15	16	18						
FA	21	22	23							
IT	17	18	19	20	21	22	23			
OT	24	2								
JT	2	24								
PT	12	7								
GA	7	12								

TRUNCATION LIMITS

UPPER LIMIT = 3.00
LOWER LIMIT = 3.00

DEPARTURE, QUEUE LENGTH AND INTERARRIVAL GAP

QUEUE = 6 MEAN = 2.00 STD DEV = 0.00
LENGTHS OF COMMON APPROACH PATHS FROM OUTER MARKER TO THRESHOLD IN NAUTICAL MILES (RUNWAY NO. 4/C CLASS, LENGTH)

1	1	7.00
1	2	7.00
1	3	3.00
1	4	3.00
2	1	7.00
2	2	7.00
2	3	3.00
2	4	3.00
3	1	7.00
3	2	7.00
3	3	3.00
3	4	3.00

TAXIWAY TWO-WAY PATHS

LINKS 2

295 372

LINKS 2 171

LINKS 2

372 295

LINXS 2 221

LINKS 2 318

376 292

LINKS 2 .

ACZ 3 SKNLT
P3C

362 197

LINKS 3

LINKS 3

352 116

LINKS 3

342 305

246 245

LINKS 3

363 197
197

244 245

LINKS 4

377 212

352 117

LINKS 4

247 246

LINKS 3 172

LINKS 5

350 108

LINKS 5 11.7

LINKS 5

373 · 145

LINKS 4 ...

LINKS & . 115, 116

353 11A

LINKS 7

379 209

LINKS	220
374	220

LINE 7

379 210

LINKS 7 224

6 SANIT

LINKS 10

377

211

210

379

209

208

207

206

205

380

LINKS 11

212

377

211

210

379

209

208

207

206

205

380

LINKS 13

380

205

206

207

208

209

210

211

211

377

212

213

376

LINKS 14

376

213

212

377

211

210

379

209

208

207

206

205

380

LINKS 4

358

171

172

356

LINKS 7

526

385

513

386

177

176

175

LINKS 8

354

175

176

177

386

513

385

526

VECTORED DELAY INPUTS

FIX DELAY EVALUATION LEVEL HOLDING PCT. MAXIMUM VECTORED DELAY MINIMUM HOLDING DELAY
 TAKE-OFF QUEUE SWITCH FOR RUNWAY 1 = 99 ALTERNATE RUNWAYS ARE 0 0 0 0

TAKE-OFF QUEUE SWITCH FOR RUNWAY 2 = 99 ALTERNATE RUNWAYS ARE 0 0 0 0

TAKE-OFF QUEUE SWITCH FOR RUNWAY 3 = 99 ALTERNATE RUNWAYS ARE 0 0 0 0

GATE HOLD LIMIT = 8 HOLD TIME = .50

GATE HOLD LIMIT = 8 HOLD TIME = .50

GATE HOLD LIMIT = 8 HOLD TIME = .50

AIRSPACE DELAYS

FIX OCCURRENCE PERCENTAGE HOLD MEAN HOLD SIGMA
 A/C DEPARTURE RUNWAY OCCUPANCY TIME IN SECONDS (A/C CLASS, MEAN, AND STD. DEV.)

1	39.00	4.00
2	39.00	4.00
3	34.00	4.00
4	34.00	4.00

TOUCH-AND-GO RUNWAY OCCUPANCY TIME IN SECONDS (A/C CLASS, MEAN, AND STD. DEV.)

1	0.00	0.00
2	0.00	0.00
3	0.00	0.00
4	0.00	0.00

THE ARRIVAL RUNWAY OCCUPANCY TIME IN SECONDS BY A/C CLASS (DISTANCE IN FEET FROM THRESHOLD TO POINT OF TAXIWAY V.M.H.S. LINE)

CLASS 1
4972.0 40.00 5110.0 54.00 5992.0 51.00 6140.0 52.00 6649.0 48.00
6650.0 67.00 6702.0 48.00 6980.0 64.00 7590.0 55.00 8052.0 58.00
9200.0 76.00 9292.0 65.00

CLASS 2
3630.0 43.00 4222.0 47.00 4400.0 55.00 4799.0 35.00 4972.0 44.00
5110.0 49.00 5732.0 47.00 5769.0 44.00 5992.0 48.00 6140.0 52.00
6649.0 54.00 6650.0 51.00 6702.0 49.00 6980.0 60.00 7589.0 64.00
7590.0 64.00 8052.0 59.00 9200.0 71.00

CLASS 3
1120.0 25.00 1232.0 30.00 2473.0 30.00 2682.0 35.00 3630.0 40.00
4222.0 46.00 4400.0 55.00 4972.0 49.00 5110.0 53.00 5732.0 56.00
5992.0 53.00 6649.0 60.00 6702.0 64.00 6980.0 60.00 7590.0 66.00
9200.0 79.00

CLASS 4
1120.0 24.00 1232.0 22.00 2470.0 37.00 2682.0 43.00 4222.0 54.00
4999.0 59.00 5732.0 66.00 5769.0 68.00 5992.0 70.00 6702.0 75.00

TAXIING SPEEDS IN MPH

5.00 10.00 15.00 20.00 25.00 30.00 5.00
A/C LATENCY DISTRIBUTION IN MINUTES (RANDOM NUMBER VERSUS TIME)

0.00

FIX	TRAVEL TIMES	CLASS	FIX TO R/W DIST.	AVERAGE SPEED
FIX	RUNWAY			
1	1	1	34.50	180.20
1	1	2	34.50	180.00
1	1	1	25.50	139.10
1	2	2	25.50	139.10
1	2	3	25.50	180.00
1	2	4	25.50	180.00
1	3	1	18.00	180.00
2	1	1	33.00	198.00
2	1	2	33.00	198.00
2	1	3	33.00	180.00
2	2	1	37.50	204.50
2	2	2	37.50	195.70
2	2	3	37.50	180.00
3	1	1	28.50	190.00
3	1	2	28.50	180.00
3	1	3	28.50	180.00
3	2	1	27.00	190.60
3	2	2	27.00	180.00
3	3	2	18.00	180.00
4	1	1	30.00	225.00
4	1	2	30.00	225.00
4	1	3	30.00	180.00
4	2	1	31.50	222.40
4	2	2	31.50	222.40
4	2	3	31.50	180.00
4	2	4	31.50	180.00
4	3	1	24.00	180.00
4	3	2	24.00	180.00
5	1	1	24.50	180.00
5	2	2	18.00	180.00
5	2	3	18.00	180.00
5	3	2	34.50	180.00
6	1	2	21.00	180.00
6	1	3	21.00	180.00
6	1	4	21.00	180.00
6	2	2	27.50	130.00
7	1	2	18.00	18.00
7	2	3	18.00	180.00
7	2	4	18.00	180.00
8	1	1	28.50	180.00
8	1	2	28.50	180.00
8	1	3	28.50	180.00
8	1	4	28.50	180.00
8	2	1	28.50	180.00
8	2	2	28.50	180.00
8	2	3	18.00	180.00
8	2	4	18.00	180.00
8	3	1	28.50	180.00
8	3	2	28.50	180.00
8	3	3	28.50	180.00
8	3	4	28.50	180.00
8	4	1	.01	120.00
8	4	2	.01	180.00
8	4	3	.01	180.00
8	4	4	.01	180.00
8	4	5	.01	180.00
8	4	6	.01	180.00
8	4	7	.01	180.00
8	4	8	.01	180.00
8	4	9	.01	180.00
8	4	10	.01	180.00
8	4	11	.01	180.00
8	4	12	.01	180.00
8	4	13	.01	180.00
8	4	14	.01	180.00
8	4	15	.01	180.00
8	4	16	.01	180.00
8	4	17	.01	180.00
8	4	18	.01	180.00
8	4	19	.01	180.00
8	4	20	.01	180.00
8	4	21	.01	180.00
8	4	22	.01	180.00
8	4	23	.01	180.00
8	4	24	.01	180.00
8	4	25	.01	180.00
8	4	26	.01	180.00
8	4	27	.01	180.00
8	4	28	.01	180.00
8	4	29	.01	180.00
8	4	30	.01	180.00
8	4	31	.01	180.00
8	4	32	.01	180.00
8	4	33	.01	180.00
8	4	34	.01	180.00
8	4	35	.01	180.00
8	4	36	.01	180.00
8	4	37	.01	180.00
8	4	38	.01	180.00
8	4	39	.01	180.00
8	4	40	.01	180.00
8	4	41	.01	180.00
8	4	42	.01	180.00
8	4	43	.01	180.00
8	4	44	.01	180.00
8	4	45	.01	180.00
8	4	46	.01	180.00
8	4	47	.01	180.00
8	4	48	.01	180.00
8	4	49	.01	180.00
8	4	50	.01	180.00
8	4	51	.01	180.00
8	4	52	.01	180.00
8	4	53	.01	180.00
8	4	54	.01	180.00
8	4	55	.01	180.00
8	4	56	.01	180.00
8	4	57	.01	180.00
8	4	58	.01	180.00
8	4	59	.01	180.00
8	4	60	.01	180.00
8	4	61	.01	180.00
8	4	62	.01	180.00
8	4	63	.01	180.00
8	4	64	.01	180.00
8	4	65	.01	180.00
8	4	66	.01	180.00
8	4	67	.01	180.00
8	4	68	.01	180.00
8	4	69	.01	180.00
8	4	70	.01	180.00
8	4	71	.01	180.00
8	4	72	.01	180.00
8	4	73	.01	180.00
8	4	74	.01	180.00
8	4	75	.01	180.00
8	4	76	.01	180.00
8	4	77	.01	180.00
8	4	78	.01	180.00
8	4	79	.01	180.00
8	4	80	.01	180.00
8	4	81	.01	180.00
8	4	82	.01	180.00
8	4	83	.01	180.00
8	4	84	.01	180.00
8	4	85	.01	180.00
8	4	86	.01	180.00
8	4	87	.01	180.00
8	4	88	.01	180.00
8	4	89	.01	180.00
8	4	90	.01	180.00
8	4	91	.01	180.00
8	4	92	.01	180.00
8	4	93	.01	180.00
8	4	94	.01	180.00
8	4	95	.01	180.00
8	4	96	.01	180.00
8	4	97	.01	180.00
8	4	98	.01	180.00
8	4	99	.01	180.00
8	4	100	.01	180.00

10	2	.01	180.00
10	3	.01	180.00
10	3	.01	180.00
10	3	.01	180.00
10	3	.01	180.00

128 SEPARATION VALUES IN 4 SETS OF 32, ARRIVAL / DEPARTURE / ARRIVAL DEPARTURE / DEPARTURE / DEPARTURE
EACH SET OF 32 IS COMPOSED OF 16 PAIRS OF MEAN AND STANDARD DEVIATION
THE 16 SETS ARE POSSIBLE WAYS OF A/C CLASS X FOLLOWED BY A/C CLASS Y
THERE ARE 4 A/C CLASSES -- I ! D CLASS

THE ORDER OF SETS OF (X, Y) IS :

(1,0), (1,2), (0,3), (1,4), (2,1), (2,2), (2,3), (2,4)
(3,0), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4)

LEAD A/C RUNWAY 0 LEAD A/C FIX 0 TRAIL A/C RUNWAY 0 TRAIL A/C FIX 0

12A SEPARATION VALUES IN 4 SETS OF 32° A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND °/° (MINUTES)

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120 SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), O/A (N.MILES), N/O (N.MILES) AND A/D (N.MILES)

TABLE 2

**AIRCRAFT SEPARATIONS
1978 VF1, EASTERLY CONFIGURATION**

LEAD A/C RUNWAY	3	LEAD A/C FIX	0	TRAIL A/C RUNWAY	1	TRAIL A/C FIX	0
128 SEPARATION VALUES IN 4 SETS OF 32; A/A (MILES); D/A (MINUTES) AND S/D (MINUTES)							
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.98	.14	1.83	.13	1.69	.12	1.49	.11
1.98	.14	1.83	.13	1.69	.12	1.49	.11
1.72	.14	1.60	.13	1.47	.12	1.22	.11
1.72	.14	1.60	.13	1.47	.12	1.22	.11
1.50	.08	2.00	.08	2.00	.08	2.00	.08
1.00	.08	1.00	.08	.83	.63	.83	.08
.33	.08	.75	.08	.58	.58	.58	.08
.83	.08	.75	.08	.58	.58	.58	.08
.93	.16	.93	.16	.93	.16	.93	.16
.66	.14	.86	.14	.86	.14	.86	.14
.78	.18	.78	.18	.78	.18	.78	.18
.80	.24	.80	.24	.80	.24	.80	.24
LEAD A/C RUNWAY	2	LEAD A/C FIX	0	TRAIL A/C RUNWAY	3	TRAIL A/C FIX	0

[illegible][illegible]

A/C SEPARATIONS

128 SEPARATION VALUES IN 4 SETS OF 32: ARRIVAL / DEPARTURE / ARRIVAL, DEPARTURE / DEPARTURE AND ARRIVAL / DEPARTURE
EACH SET OF 32 IS COMPOSED OF 16 PAIRS OF MEAN AND STANDARD DEVIATION
THE 16 SETS ARE POSSIBLE WAYS OF A/C CLASS X FOLLOWED BY A/C CLASS Y
THERE ARE 4 A/C CLASSES -- 1 1 0 CLASS
2 1 0 CLASS
3 1 0 CLASS
4 1 0 CLASS

THE ORDER OF SETS OF (X,Y) IS 1

(1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4)
(3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4)

LEAD A/C RUNWAY 0 LEAD A/C FIX 0 TRAIL A/C RUNWAY 0 TRAIL A/C FIX 0
128 SEPARATION VALUES IN 4 SETS OF 32: A/A (N-MILES), D/A (N-MILES), D/D (MINUTES) AND A/D (MINUTES)

5.56	.70	6.57	.65	7.59	.60	7.43	.50
4.46	.70	4.37	.65	5.39	.50	5.23	.50
4.46	.70	4.37	.65	4.29	.60	4.13	.50
4.46	.70	4.37	.65	4.29	.60	4.13	.50
2.63	.14	2.60	.13	2.60	.12	2.60	.11
2.63	.14	2.60	.13	2.60	.12	2.60	.11
2.60	.14	2.60	.13	2.60	.12	2.60	.11
2.60	.14	2.60	.13	2.60	.12	2.60	.11
1.50	.08	1.00	.08	1.00	.08	1.00	.08
1.00	.08	1.00	.08	1.00	.08	1.00	.08
1.00	.08	1.00	.08	1.00	.08	1.00	.08
1.00	.08	1.00	.08	1.00	.08	1.00	.08
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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LEAD A/C RUNWAY 1 LEAD A/C FIX 0 TRAIL A/C RUNWAY 3 TRAIL A/C FIX 0
128 SEPARATION VALUES IN 4 SETS OF 32: A/A (N-MILES), D/A (N-MILES), D/D (MINUTES) AND A/D (MINUTES)

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.63	.14	2.60	.13	2.60	.12	2.60	.11
2.63	.14	2.60	.13	2.60	.12	2.60	.11
2.60	.14	2.60	.13	2.60	.12	2.60	.11
2.60	.14	2.60	.13	2.60	.12	2.60	.11
1.50	.08	1.00	.08	1.00	.08	1.00	.08
1.00	.08	1.00	.08	1.00	.08	1.00	.08
1.00	.08	1.00	.08	1.00	.08	1.00	.08
1.00	.08	1.00	.08	1.00	.08	1.00	.08
.93	.16	.93	.16	.93	.16	.93	.16
.86	.14	.86	.14	.86	.14	.86	.14
.76	.18	.76	.18	.76	.18	.76	.18
.80	.24	.80	.24	.80	.24	.80	.24

TABLE 3

AIRCRAFT SEPARATIONS
1978 IFRI, EASTERLY CONFIGURATION

[illegible]

[illegible]

TABLE 4
(continued)

Note that the arrival runway occupancy times for IFR2 conditions are set 5 seconds greater than for IFR1.
The adjusted IFR2 runway clearance times and occupancy times are as follows:

RWY XING LINKS													
RWY XING LINKS MIN CONFLUENCE TO IFR2													
2	198	32	43	50	30	40	42	42	40	30	30	30	30
2	228	52	56	60	71	41	44	46	54	30	30	30	30
2	259	56	59	65	78	44	48	51	58	30	30	30	30
2	345	68	66	71	84	54	59	65	77	30	30	30	30
3	305	38	41	47	49	30	32	33	37	30	30	30	30
3	530	38	41	47	49	30	32	33	37	30	30	30	30
3	277	60	64	70	78	48	52	56	66	30	30	30	30
3	266	60	64	70	78	48	52	56	66	30	30	30	30
3	276	60	64	70	78	48	52	56	66	30	30	30	30
3	120	65	74	76	78	52	57	62	73	30	30	30	30
-3	280	65	74	76	78	52	57	62	73	30	30	30	30
RWY ARRIVAL OCCUPANCY TIMES IFR2													
1	12												
4972	45.0	5110	59.0	5992	56.0	6140	57.0	6649	53.0	53.0			
6650	72.0	6702	53.0	6980	69.0	7590	60.0	8052	63.0	63.0			
9200	81.0	9292	70.0										
2	18												
3630	48.0	4222	52.0	4400	60.0	4799	40.0	4972	49.0	49.0			
5110	54.0	5732	52.0	5769	49.0	5992	53.0	6140	57.0	57.0			
6649	59.0	6650	56.0	6702	54.0	6980	65.0	7589	69.0	69.0			
7590	69.0	8052	64.0	9200	82.0								
3	16												
1120	30.0	1232	35.0	2470	35.0	2682	40.0	3630	45.0	45.0			
4222	51.0	4400	60.0	4972	54.0	5110	58.0	5732	51.0	51.0			
5992	58.0	6649	65.0	6702	69.0	6980	65.0	7590	71.0	71.0			
9200	84.0												
-4	10												
1120	29.0	1232	27.0	2470	42.0	2682	48.0	4222	59.0	59.0			
4799	64.0	5732	71.0	5769	73.0	5992	75.0	6702	80.0	80.0			

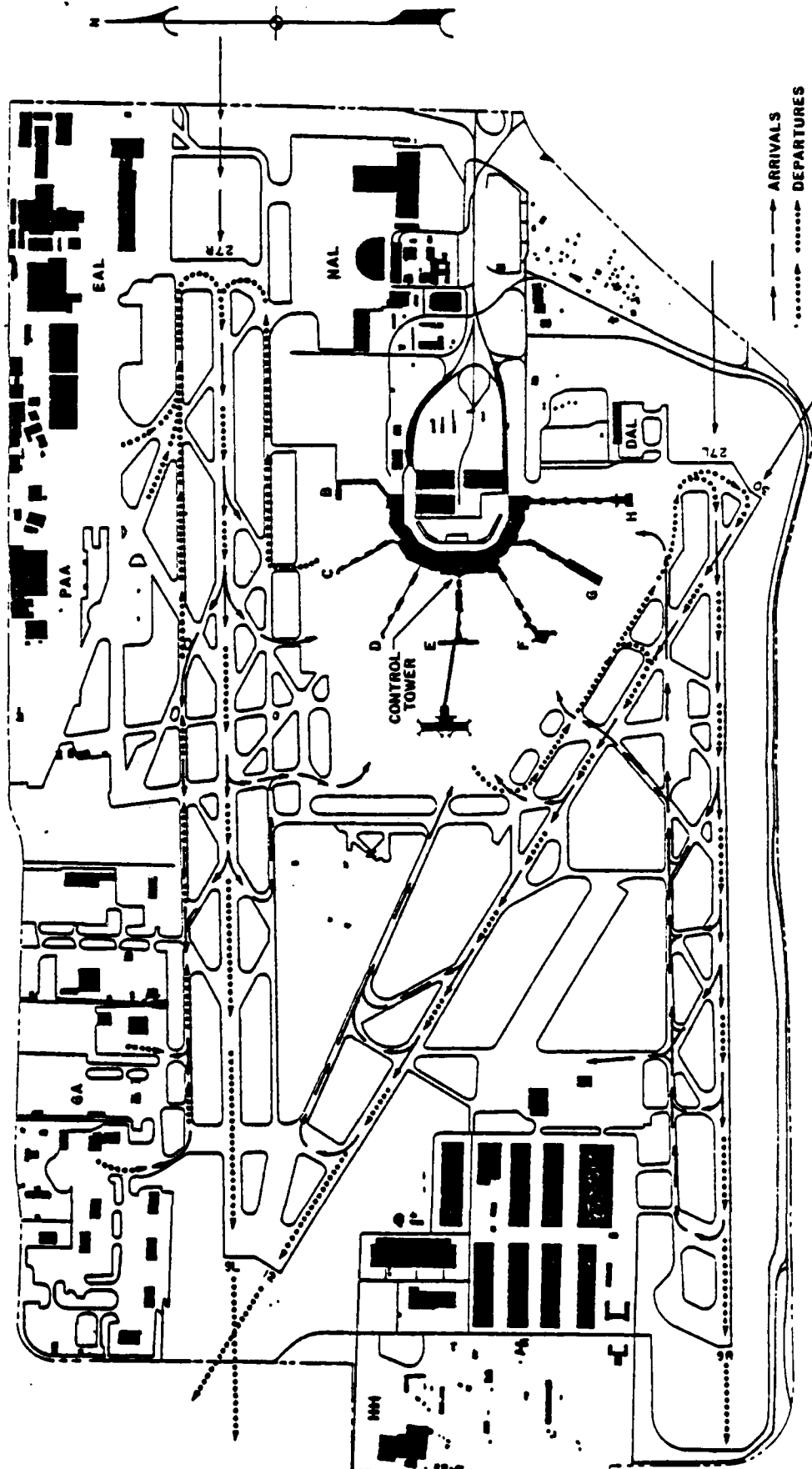


Figure 7
MIAMI WESTERLY CONFIGURATION

MIAMI INTERNATIONAL AIRPORT
C-0380 HJL 7-13-76

CONFIGURATION B MODEL INPUT DATA

MIAMI INTL. AIRPORT EXPENS-2 ROUTES-1978 CONFIG=8 SEPAR=78VFR1 DEMAND=78

NUMBER OF RANDOM NUMBER SEEDS

10

RANDOM NUMBER SEEDS

82651 91921 69011 92157 14577 10493 27011 40961 15011 63661

START TIME AND FINISH TIME

112 0 202 0

PRINT OPTIONS

F F F F F F F F F F

NUMBER OF AIRLINES

17

AIRLINE CODES

IA	LA	OD	FF	GG	HH	C1	C2	F1	F2
F3	F4	IT	JT	JT	PT	GA			

NUMBER OF RUNWAYS

3

RUNWAY NAMES

27R 27L 30

RUNWAY END LINK NUMBERS

422 401 413

RUNWAY CROSSING LINKS--CLEARANCE TIMES FOR A/C CROSSING ACTIVE RUNWAY

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

345 1 19. 37. 39. 40. 28. 30. 31. 35. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

258 1 40. 48. 54. 63. 39. 43. 45. 52. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

259 1 40. 48. 54. 63. 39. 43. 45. 52. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

227 1 46. 51. 59. 71. 43. 47. 49. 58. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

331 1 66. 62. 64. 78. 52. 58. 63. 75. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

178 1 79. 67. 64. 79. 59. 65. 72. 65. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

255 1 79. 62. 64. 78. 59. 65. 72. 65. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

177 2 5. 5. 5. 5. 6. 6. 6. 7. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

120 3 22. 39. 38. 37. 26. 28. 28. 32. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

274 3 36. 44. 44. 46. 31. 34. 34. 39. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

277 3 30. 44. 44. 46. 31. 34. 34. 39. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

297 3 30. 44. 44. 46. 31. 34. 34. 39. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

337 3 65. 64. 63. 74. 49. 54. 58. 68. 30. 30. 30.

XNG LINK RUNWAY ARRIVAL ON R/W DEPARTURE ON R/W ARRIVAL ON FINAL

530 3 65. 64. 63. 74. 49. 54. 58. 68. 30. 30. 30.

RUNWAY CROSSING LINKS--OCCUPANCY TIMES (SECS)

CLASS	TIME
1	20.00
2	20.00
3	20.00
4	20.00

RUNWAY CROSSING TIME AND INTERARRIVAL GAP

LINK NO.	MEAN	STD DEV
345	1.50	.50
258	1.50	.50
259	1.50	.50
227	1.50	.50
331	1.50	.50
198	1.50	.50
255	1.50	.50
178	1.50	.50
120	1.50	.50
276	1.50	.50
277	1.50	.50
267	1.50	.50
305	1.50	.50
530	1.50	.50

NUMBER OF EXITS
17

DISTANCE IN FEET FROM THRESHOLD TO THE EXIT TAXIWAY (EXIT LINK NO. VERSUS DISTANCE)

295	2400.0	266	2930.0	300	3390.0	323	3810.0	270	4250.0
293	4460.0	259	4720.0	284	4780.0	316	4980.0	287	5480.0
307	5640.0	302	6230.0	305	6890.0	321	6891.0	329	7770.0
304	8270.0	255	9220.0						

NUMBER OF HOLDING AREAS
1

HOLDING AREA NUMBERS
99

NUMBER OF G/A BASING AREAS
6

G/A BASING AREA NUMBERS	16	17	18	19	20
9					

AIRLINE GATES

IA	4	5	6	17	18	19	20	21	22	23
EA	1	2	3							
00	3	4								
FF										
GG	6	7	21							
HH	5	6	7	8						
CI	7	8	9	10						
CC	3	4	9	17						
F1	6	8	9	17						
F2	17	18	19	20						
F3	14	15	16	18						
F4	21	22	23							
IT	17	18	19	20	21	22	23			
UT	24	2								
JT	2	24								
PT	12	7								
GA	7	12								
	0									

TRUNCATION LIMITS
 UPPER LIMIT = 3.00
 LOWER LIMIT = 3.00

DEPARTURE QUEUE LENGTH AND INTERARRIVAL GAP
 QUEUE = 6 MEAN = 2.00 STD DEV = 0.00

LENGTHS OF COMMON APPROACH PATHS FROM OUTER MARKER TO THRESHOLD IN NAUTICAL MILES (RUNWAY NO., A/C CLASS, LENGTH)

1	1	1	7.00
1	2	7.00	
1	3	3.00	
1	4	3.00	
2	1	7.00	
2	2	7.00	
2	3	3.00	
2	4	3.00	
3	1	7.00	
3	2	7.00	
3	3	3.00	
3	4	3.00	

[illegible]

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LINKS 11	177	176	175	354	174	173	356	172	171
LINKS 11	109	110	111	112	351	113	114	115	116
LINKS 11	190	191	192	193	194	195	196	363	197
LINKS 11	197	363	196	195	194	193	192	191	190
LINKS 13	375	501	349	348	347	374	220	221	222
LINKS 14	107	105	350	109	110	111	112	351	113
LINKS 14	385	513	386	177	176	175	354	174	173
LINKS 14	171	172	356	173	174	355	175	176	177
LINKS 14	116	115	114	113	351	112	111	110	109
LINKS 14	186	187	188	189	382	190	191	192	193

VECTURING DELAY INPUTS

FIX DELAY EVALUATION LEVEL HOLDING PCT. MAXIMUM VECTURING DELAY MINIMUM HOLDING DELAY

TAKE-OFF QUEUE SWITCH FOR RUNWAY 1 = 99 ALTERNATE RUNWAYS ARE 0 0 0 0 0

TAKE-OFF QUEUE SWITCH FOR RUNWAY 2 = 99 ALTERNATE RUNWAYS ARE 0 0 0 0 0

TAKE-OFF QUEUE SWITCH FOR RUNWAY 3 = 99 ALTERNATE RUNWAYS ARE 0 0 0 0 0

GATE HOLD LIMIT = 8 HOLD TIME = .50

GATE HOLD LIMIT = 6 HOLD TIME = .50

GATE HOLD LIMIT = 8 HOLD TIME = .50

AIRSPACE DELAYS

FIX OCCURRENCE PERCENTAGE HOLD MEAN HOLD SIGMA

A/C DEPARTURE RUNWAY OCCUPANCY TIME IN SECONDS (A/C CLASS, MEAN, AND STD. DEV.)

1	39.00	4.00
2	39.00	4.00
3	34.00	4.00
4	34.00	4.00

TOUCH-AND-GO RUNWAY OCCUPANCY TIME IN SECONDS (A/C CLASS, MEAN, AND STD. DEV.)

1	0.00	0.00
2	0.00	0.00
3	0.00	0.00
4	0.00	0.00

03 1 B

GATE SERVICE TIME DISTRIBUTION (PROBABILITY VS TIME)

CLASS 1									
.00	31.	.02	34.	.07	36.	.16	37.	.31	39.
.40	39.	.45	40.	.50	40.	.55	40.	.60	41.
.69	42.	.84	43.	.93	45.	.98	46.	1.00	49.
CLASS 2									
.00	21.	.02	24.	.07	26.	.16	27.	.31	29.
.40	29.	.45	30.	.50	30.	.55	30.	.60	31.
.69	32.	.84	33.	.93	35.	.98	36.	1.00	39.
CLASS 3									
.00	14.	.02	16.	.07	17.	.16	18.	.31	19.
.40	20.	.45	20.	.50	20.	.55	20.	.51	21.
.69	21.	.84	22.	.93	23.	.98	24.	1.00	26.
CLASS 4									
.00	14.	.02	16.	.07	17.	.16	18.	.31	19.
.40	20.	.45	20.	.50	20.	.55	20.	.51	21.
.69	21.	.84	22.	.93	23.	.98	24.	1.00	26.

A/C APPROACH SPEED IN KNOTS (A/C CLASS, MEAN, STD. DEV.)

1	140.00	5.00
2	130.00	5.00
3	120.00	5.00
4	100.00	5.00

RUNWAY EXIT SELECTION--USAGE PERCENTAGE BY EACH A/C CLASS AND BY EACH RUNWAY (EXIT LINK NO. VERSUS PROBABILITY)

CLASS 1 RMY 1									
255.	.50	329.	.82	287.	.92	302.	1.00		
302.	.55	287.	.83	329.	.92	290.	.96	259.	1.00
CLASS 3 RMY 1									
300.	.24	290.	.48	302.	.70	259.	.85	287.	.95
298.	1.00								
CLASS 4 RMY 1									
290.	.50	302.	1.00						
CLASS 1 RMY 2									
321.	.99	316.	1.00						
CLASS 2 RMY 2									
321.	.40	270.	.70	316.	1.00				
CLASS 3 RMY 2									
321.	.40	270.	.70	316.	1.00				
CLASS 4 RMY 2									
321.	.40	270.	.70	316.	1.00				
CLASS 1 RMY 3									
307.	.68	305.	.89	304.	1.00				
CLASS 2 RMY 3									
107.	.72	305.	.83	284.	.92	266.	.97	323.	1.00
CLASS 3 RMY 3									
107.	.40	266.	.70	284.	.90	323.	1.00		
CLASS 4 RMY 3									
107.	.40	266.	.70	284.	.90	323.	1.00		

THE ARRIVAL RUNWAY OCCUPANCY TIME IN SECONDS BY A/C CLASS (DISTANCE IN FEET FROM THRESHOLD TO EXIT TAXIWAY VERSUS TIME)

CLASS 1									
4960.0	52.00	5480.0	41.00	5640.0	50.00	6230.0	48.00	6890.0	60.00
6871.0	63.00	7770.0	61.00	8270.0	71.00	9220.0	74.00		
CLASS 2									
2930.0	39.00	3810.0	43.00	4250.0	46.00	4460.0	42.00	4720.0	43.00
4780.0	48.00	4960.0	49.00	5480.0	46.00	5840.0	53.00	6230.0	50.00
6810.0	59.00	6891.0	59.00	7770.0	57.00				
CLASS 3									
2400.0	34.00	2930.0	37.00	3390.0	40.00	3810.0	45.00	4250.0	46.00
4460.0	47.00	4720.0	49.00	4780.0	51.00	4960.0	51.00	5480.0	54.00
5840.0	58.00	6230.0	59.00	6891.0	63.00				
CLASS 4									
2930.0	41.00	3810.0	50.00	4250.0	54.00	4460.0	56.00	4780.0	59.00
4960.0	60.00	5840.0	69.00	6230.0	73.00	6891.0	79.00		

TAXIING SPEEDS IN MPH

5.00 10.00 15.00 20.00 25.00 30.00 5.00

A/C LATENESS DISTRIBUTION IN MINUTES (RANDOM NUMBER VERSUS TIME)

3.00

128 SEPARATION VALUES IN 4 SETS OF 32, ARRIVAL / ARRIVAL, DEPARTURE / DEPARTURE AND ARRIVAL / DEPARTURE
EACH SET OF 32 IS COMPOSED OF 16 PAIRS OF MEAN AND STANDARD DEVIATION
THE 16 SETS ARE POSSIBLE WAYS OF A/C CLASS X FOLLOWED BY A/C CLASS Y
THERE ARE 4 A/C CLASSES --- 1 1 0 CLASS

THE ORDER OF SETS OF (X, Y) IS]

$(1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4)$
 $(3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4)$

LEAD A/C RUNWAY 0 LEAD A/C FIX 0 TRAIL A/C RUNWAY 0 TRAIL A/C FIX 0
120 SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)

[illegible]

LEAD A/C RUNWAY 1 LEAD A/C FIX 0 TRAIL A/C RUNWAY 3 TRAIL A/C FIX 0
128 SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)

[illegible]

**AIRCRAFT SEPARATIONS
1978 IFRI, WESTERLY CONFIGURATION**

[illegible]

LEAD A/C RUNWAY	2	LEAD A/C FIX	0	TRAIL A/C RUNWAY	3	TRAIL A/C FIX	0
12M SEPARATION VALUES IN 4 SETS OF 32.	A/A (N.MILES),	D/A (N.MILES),	D/D (MINUTES)	A/D (MINUTES)			
7.56	.70	6.57	.65	7.59	.60	7.43	.50
4.37	.70	4.37	.65	5.39	.60	5.23	.50
4.46	.70	4.37	.65	4.29	.60	4.13	.50
4.46	.70	4.37	.65	4.29	.60	4.13	.50
1.21	.14	1.20	.13	1.20	.12	1.20	.11
1.21	.14	1.20	.13	1.20	.12	1.20	.11
1.20	.14	1.20	.13	1.20	.12	1.20	.11
1.20	.14	1.20	.13	1.20	.12	1.20	.11
.50	.09	.66	.08	.66	.06	.66	.08
.33	.08	.33	.08	.33	.08	.33	.08
.33	.08	.33	.08	.33	.08	.33	.08
.33	.08	.33	.08	.33	.08	.33	.08
.31	.16	.31	.16	.31	.16	.31	.16
.28	.14	.28	.14	.28	.14	.26	.14
.26	.18	.26	.18	.26	.18	.26	.18
.26	.24	.26	.24	.26	.24	.26	.24

LEAD A/C RUNWAY 3		LEAD A/C FIX 0		TRAIL A/C RUNWAY 2		TRAIL A/C FIX 0		
T28 SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)								
70	4.56	70	4.57	65	7.59	60	7.43	50
70	4.46	70	4.37	65	5.39	60	5.23	50
70	4.46	70	4.37	65	4.29	60	4.13	50
70	4.46	70	4.37	65	4.29	60	4.13	50
14	1.21	14	1.20	13	1.20	12	1.20	11
14	1.21	14	1.20	13	1.20	12	1.20	11
14	1.20	14	1.20	13	1.20	12	1.20	11
14	1.20	14	1.20	13	1.20	12	1.20	11
50	0.08	50	0.66	0.08	0.66	0.08	0.66	0.08
33	0.33	33	0.33	0.08	0.33	0.08	0.33	0.08
33	0.33	33	0.33	0.08	0.33	0.08	0.33	0.08
33	0.33	33	0.33	0.08	0.33	0.08	0.33	0.08
31	0.31	31	0.16	0.31	0.16	0.31	0.16	0.16
14	0.26	14	0.28	0.14	0.26	0.14	0.28	0.14
26	0.26	26	0.26	0.18	0.26	0.18	0.26	0.18
26	0.26	26	0.26	0.24	0.26	0.24	0.26	0.24

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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	

00°0 00°0 60°0 00°0 00°0 00°0 00°0 00°0

**AIRCRAFT SEPARATIONS
1978 IFRI, TWO MILE IN-TRAIL
STAGGERED PARALLEL APPROACHES,
WESTERLY CONFIGURATION**

[illegible]

LEAD A/C KUNWAY	2	LEAD A/C FIX	0	TRAIL A/C KUNWAY	3	TRAIL A/C FIX	0
E28 SEPARATION VALUES IN 4 SETS OF 329 A/A (IN-MILEST), D/A (IN-MILEST), D/D (MINUTES) AND A/D (MINUTES)							
5.56	.70	6.57	.65	7.59	.60	7.43	.50
4.46	.70	4.37	.65	4.29	.60	4.13	.50
4.46	.70	4.37	.65	4.29	.60	4.13	.50
1.21	.14	1.20	.13	1.20	.12	1.20	.11
1.21	.14	1.20	.13	1.20	.12	1.20	.11
1.20	.14	1.20	.13	1.20	.12	1.20	.11
1.20	.14	1.20	.13	1.20	.12	1.20	.11
5.0	.08	.66	.03	.66	.08	.66	.08
3.3	.08	.33	.08	.33	.08	.33	.08
3.3	.03	.33	.08	.33	.08	.33	.08
3.3	.03	.33	.08	.33	.08	.33	.08
3.1	.16	.31	.16	.31	.16	.31	.16
2.8	.14	.28	.14	.28	.14	.28	.14
2.6	.15	.26	.18	.26	.18	.26	.18
2.6	.25	.26	.24	.26	.24	.26	.24

LFSD 7/C	SURVEY 3	LEAD 4/C	FIX 0	TRAIL 4/C	RUNWAY 2	TRAIL 4/C	FIX 0
12B. SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)							
3.56	.70	6.57	.65	7.59	.60	7.43	.50
4.46	.70	4.37	.65	5.39	.60	5.23	.50
4.46	.70	4.37	.65	4.29	.60	4.13	.50
4.46	.70	4.37	.65	4.29	.60	4.13	.50
1.71	.14	1.20	.13	1.20	.12	1.20	.11
1.71	.14	1.20	.13	1.20	.12	1.20	.11
1.20	.14	1.20	.13	1.20	.12	1.20	.11
1.20	.14	1.20	.13	1.20	.12	1.20	.11
.50	.05	.56	.08	.66	.03	.66	.08
.31	.03	.33	.04	.33	.04	.33	.04
.33	.02	.33	.03	.33	.03	.33	.08
.33	.08	.33	.03	.33	.08	.33	.08
.31	.16	.31	.16	.31	.16	.31	.16
.70	.14	.23	.14	.24	.14	.28	.14
.70	.13	.26	.18	.26	.13	.26	.18
.26	.24	.26	.24	.26	.24	.26	.24

1. DATE A/C FILE NO. MINUTES AND A/C MINUTES (S131015)

1970	1.7	2.4	2.5	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.
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TRAIL A/C FIX 0
, D/D (MINUTES) AND A/D (MINUTES)

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B-40

STONEMAN

IX	DELAY EVALUATION LEVEL	HOLDING PCI.	MAXIMUM VECTORING DELAY	MINIMUM HOLDING DELAY
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TABLE 7
(continued)

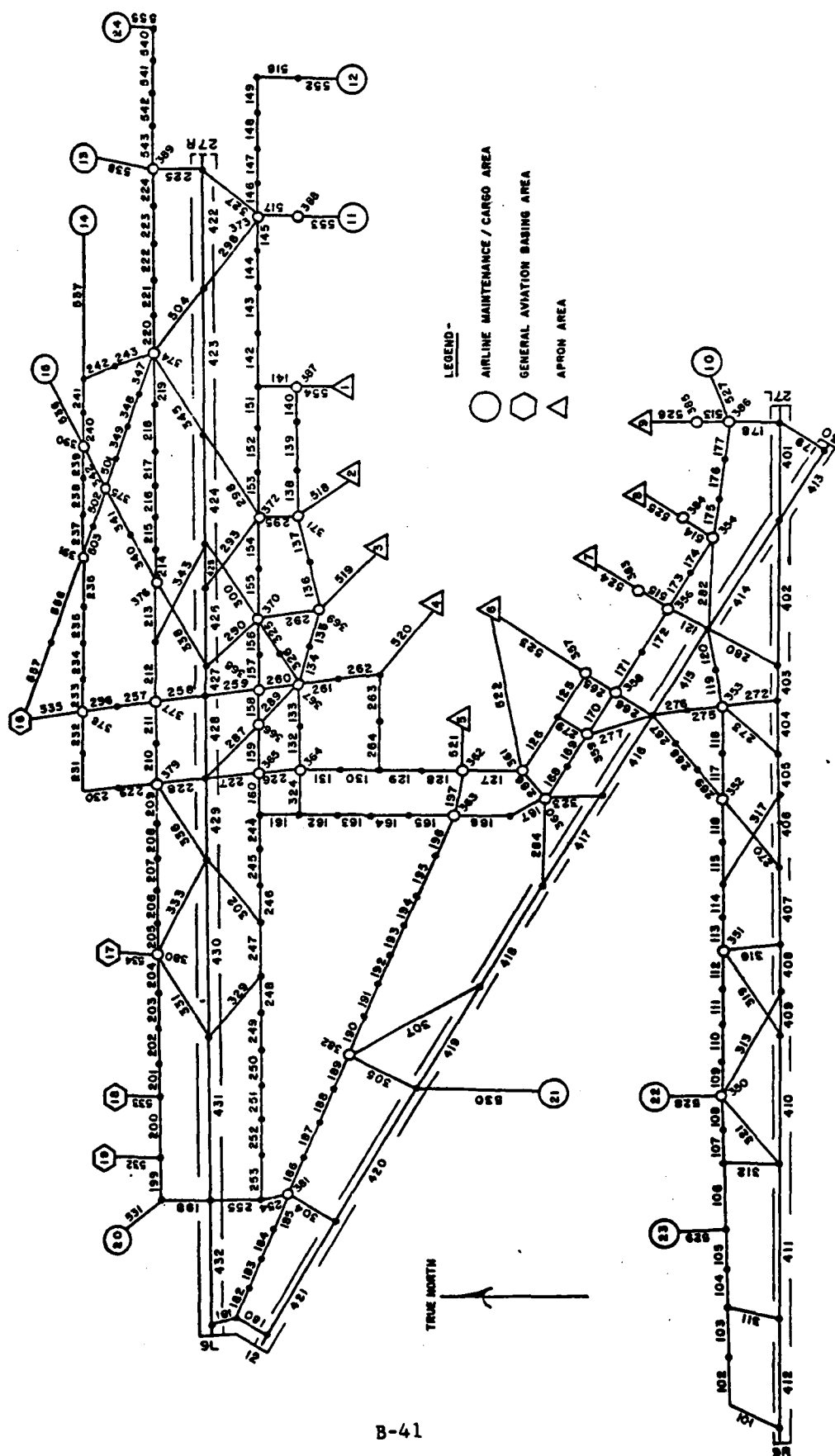


Figure 8
MIAMI LINK-NODE DIAGRAM
1978 CONFIGURATION

Attachment C

MIAMI DELAY EXPERIMENTS
STAGE 1 and STAGE 2

Data Package No. 5
Miami International Airport
Airport Improvement Task Force Delay Studies
February 1980

TABLE 8
MIAMI DELAY EXPERIMENTS*
STAGE 1

Experiment Number	Model	Study Case ^a	Arrival Runways	Departure Runways	Weather	Demand	ATC System Scenario ^b	Near-term Improvements ^c
1	ASM ^d	1	9L, 9R, 12	9L, 9R, 12	VFR1	Today's	Today's	None
7	ASM	1	9L, 9R, 12	9L, 9R, 12	VFR1	1983 ¹	Today's	None (Full G. A.)
11	ASM	1	9L, 9R, 12	9L, 9R, 12	VFR1	1983 ¹	1983	1983 ^e (Full G. A.)
14	ASM	1	9L, 9R, 12	9L, 9R, 12	VFR1	1983 ^m	1983	1983 ^e , g (50% G. A. Reduction)
4	ASM	4	9L, 9R	9L, 9R, 12	IFR1	Today's	Today's	None
34	ASM	4	9L, 9R	9L, 9R, 12	IFR1	1983 ¹	Today's	None (Full G. A.)
9	ASM	4	9L, 9R	9L, 9R, 12	IFR1	1983 ^m	1983	g (50% G. A. Reduction)
35	ASM	4	9L, 9R	9L, 9R, 12	IFR1	1983 ^m	1983	1983 ^e , g (50% G. A. Reduction)
6	ASM	8	None	9L	IFR2	Today's	Today's	None
10	ASM	8	None	9L	IFR2	1983 ^m	1983	g (50% G. A. Reduction)
21	ASM	9	9L, 9R	9L, 9R, 12	IFR2	1983 ^m	1983	1983 ^e , g (50% G. A. Reduction)
2	ASM	2	27L, 27R, 30	27L, 27R, 30	VFR1	Today's	Today's	None
8	ASM	2	27L, 27R, 30	27L, 27R, 30	VFR1	1983 ¹	Today's	None (Full G. A.)
36	ASM	2	27L, 27R, 30	27L, 27R, 30	VFR1	1983 ¹	1983	1983 ^e (Full G. A.)
37	ASM	2	27L, 27R, 30	27L, 27R, 30	VFR1	1983 ^m	1983	1983 ^e , g (50% G. A. Reduction)
3	ASM	3	27L, 27R	27L, 27R, 30	VFR2	Today's	Today's	None
38	ASM	3	27L, 27R	27L, 27R, 30	VFR2	1983 ^m	Today's	None (Full G. A.)
17	ASM	3	27L, 27R	27L, 27R, 30	VFR2	1983 ^m	1983	g (50% G. A. Reduction)
12	ASM	7	27R, 30	27L, 27R	VFR2	1983 ^m	1983	1983 ^e , g (50% G. A. Reduction)
5	ASM	5	27L, 27R	27L, 27R	IFR1	Today's	Today's	None
39	ASM	5	27L, 27R	27L, 27R	IFR1	1983 ¹	Today's	None (Full G. A.)
15	ASM	5	27L, 27R	27L, 27R	IFR1	1983 ¹	1983	1983 ^e (Full G. A.)
20	ASM	5	27L, 27R	27L, 27R	IFR1	1983 ^m	1983	1983 ^e , g (50% G. A. Reduction)
12A	ASM	7	27R, 30	27L, 27R	VFR2	1983 ^m	1983	1983 ^e , g (50% G. A. Reduction)
24	ASM	5	27L, 27R	27L, 27R	IFR1	Today's	Today's	ⁱ

^a Study cases are defined in Figure III-1 of the Miami International Airport Technical Plan (Oct. 1978).

^b FAA will describe impact of pre-1985 and post-1985 ATC systems on model inputs (as per report No. FAA-EM-78-8A).

^c Near-term improvements are described in Appendix B of the Miami International Airport Technical Plan.

^d Airfield Simulation Model.

^e Improvement items 1, 2, 3, 7, 9, and 10 as defined by the Miami Delay Studies' Task Force on 3/16/79 are modeled in these experiments.

^g 50% reduction in general aviation achieved by upgrading Opa Locka and Tamiami General Aviation Reliever Airports.

ⁱ Improvement #6 is the use of 2 mile in-trail staggered parallel approaches.

¹ 1983 full schedule assumes no G. A. relocation out of Miami between 1978 and 1983.

^m 1983 limited schedule assumes a 50% G. A. reduction at Miami due to upgrading of reliever airports.

^p All improvements of footnote "e" except for improvement item #10 (aircraft are being towed instead of taxied in 12A).

* Stage 1 experiments as revised by discussions with the Miami Delay Studies' Task Force since 1/24/79

TABLE 9
MIAMI DELAY EXPERIMENTS*
STAGE 2

Experiment Number	Model	Study Case	Arrival Runways	Departure Runways	Weather	Demand	ATC	
							System Scenario	Near-term Improvements
16	ADM ^h	n.a.	n.a.	n.a.	n.a.	Todays	Todays	None
29	ADM	n.a.	n.a.	n.a.	n.a.	Pre-1985 ^m	Todays	None
27	ADM	n.a.	n.a.	n.a.	n.a.	Pre-1985 ^m	Pre-1985	None
28	ADM	n.a.	n.a.	n.a.	n.a.	Pre-1985 ^m	Todays	Pre-1985 ^{e, g}
26	ADM	n.a.	n.a.	n.a.	n.a.	Pre-1985 ^m	Pre-1985	Pre-1985 ^{e, g}
33	ADM	n.a.	n.a.	n.a.	n.a.	Post-1985 ^q	Todays	None
30	ADM	n.a.	n.a.	n.a.	n.a.	Post-1985 ^q	Post-1985	None
32	ADM	n.a.	n.a.	n.a.	n.a.	Post-1985 ^q	Todays	Post-1985 ^r
31	ADM	n.a.	n.a.	n.a.	n.a.	Post-1985 ^q	Post-1985	Post-1985 ^r

^eImprovement items 1, 2, 3, 7, 9, and 10 as defined by the Miami Delay Studies' Task Force on 3/16/79.

^g50% reduction in general aviation achieved by upgrading Opa Locka and Tamiami General Aviation Reliever Airports.

^hAnnual Delay Model

^m1983 limited schedule assumes a 50% G. A. reduction at Miami due to upgrading of reliever airports.

^qPost-1985 Demand to be provided by the Miami Delay Studies' Task Force.

^rPost-1985 Improvement Package to be provided by the Miami Delay Studies' Task Force.

*Stage 2 experiments as revised by discussions with the Miami Delay Studies' Task Force since 1/24/79

Attachment D

EXPERIMENTAL RESULTS
MIAMI STAGE 1 DELAY EXPERIMENTS

Data Package No. 5
Miami International Airport
Airport Improvement Task Force Delay Studies
February 1980

This section presents the results of twelve selected Miami experiments. These results comprise all Stage 1 model runs that utilize "today's" ATC System scenario and taxiway system.

The results are arranged in sets to illustrate various comparisons requested by the Task Force members. VFR and IFR weather conditions have been separated along with each configuration:

- Set 1: VFR EAST- Exp. Nos. 1 and 7.
- Set 2: IFR EAST- Exp. Nos. 4, 34 and 6.
- Set 3: VFR WEST- Exp. Nos. 2, 8, 3 and 38.
- Set 4: IFR WEST- Exp. Nos. 5, 39 and 24.

Each experiment's summary contains a description of the objective, the runway configuration, the related comparison experiments and a table of results. Plots are also included which illustrate key comparisons between experiments.

TABLE 10

SET - 1 DEMAND
VFR-EASTERLY FLOW

EXPERIMENT NUMBER		RUNWAY 9R	RUNWAY 9L	RUNWAY 12	TOTAL
1	ARRIVALS	142	167	4	313
	DEPARTURES	104	167	31	302
	TOTAL	246	334	35	615
7	ARRIVALS	196	194	5	395
	DEPARTURES	130	200	40	370
	TOTAL	326	394	45	765
	ARRIVALS				
	DEPARTURES				
	TOTAL				
	ARRIVALS				
	DEPARTURES				
	TOTAL				
	ARRIVALS				
	DEPARTURES				
	TOTAL				
	ARRIVALS				
	DEPARTURES				
	TOTAL				
	ARRIVALS				
	DEPARTURES				
	TOTAL				

EXPERIMENT NO. 1

Objective:

To obtain baseline delay estimates for the following runway configuration in VFR1 for 1978 demand:

Arrival Runways

9L, 9R, 12

Departure Runways

9R, 9L, 12

Related Comparison Experiments:

Calibration was performed using this easterly configuration. Inputs to this experiment were similar, but with 1978 demand.

Experiment 4 examines this configuration with IFR1 weather and 1978 demand.

Experiment 7 compares to this baseline case, wherein demand is increased to the 1983 level under VFR1 conditions.

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Miami International Airport
Airport Improvement Task Force Delay Studies
February 1980

TABLE 11

EXPERIMENT 1 RESULTS

MIAMI INTER. AIRPORT EXPER.-1 ROUTES=1978 CONFIG=A SEPAR=78VFR1 DEMAND=78

TIME	AVERAGE FLOW RATES										AVERAGE TRAVEL TIME			
	ARRIVALS					DEPARTURES					FIX TO THRESH		THRESH TO GATE	
	RWY 9L	RWY 12	RWY 9L	RWY 12	RWY 9L	RWY 12	RWY 9L	RWY 12	RWY 9L	RWY 12	TO GATE	TO GATE	TO GATE	TO GATE
1100-1200	22.9	21.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.64	10.64	2.97	6.02
1200-1300	25.1	22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.99	11.99	3.34	8.76
1300-1400	12.0	22.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.67	10.67	2.91	8.47
1400-1500	22.7	19.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.68	10.68	3.07	7.41
1500-1600	18.3	23.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.56	11.56	3.01	6.45
1600-1700	22.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.26	12.26	3.11	9.23
1700-1800	6.0	15.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.83	10.83	2.97	6.07
1800-1900	13.0	18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.91	9.91	3.00	6.59
1900-2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	4.43
AVERAGE DELAYS														
	ARRIVALS					DEPARTURES					ARR		DEP	
	RWY 9L	RWY 12	TOT	RWY 9L	RWY 12	RWY 9L	RWY 12	TOT	RWY 9L	RWY 12	DELAY	DELAY	DELAY	DELAY
1100-1200	1.0	.5	0.0	0.0	0.0	.7	.0	.1	2.0	2.0	3.3	0.0	0.0	0.0
1200-1300	1.2	3.1	0.0	0.0	0.0	2.1	.0	.1	5.7	2.6	2.4	0.0	0.0	0.0
1300-1400	.4	1.3	.3	0.0	0.0	1.0	.0	.0	3.6	2.5	3.7	0.0	0.0	0.0
1400-1500	1.0	1.4	0.0	0.0	0.0	1.2	.0	.1	1.7	4.3	2.0	0.0	0.0	0.0
1500-1600	1.6	2.2	0.0	0.0	0.0	1.9	.0	.3	2.2	2.5	.8	0.0	0.0	0.0
1600-1700	2.0	3.0	0.0	0.0	0.0	2.5	.0	.1	2.5	6.1	1.3	0.0	0.0	0.0
1700-1800	0.0	2.1	2.2	0.0	0.0	1.6	.0	.0	1.3	1.5	1.3	0.0	0.0	0.0
1800-1900	.4	.7	0.0	0.0	0.0	.6	0.0	.1	.9	2.9	.3	0.0	0.0	0.0
1900-2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	0.0	0.0	0.0	0.0
GRAND TOTAL														
	ARR					DEP					DELAY		DELAY	
	0.0					0.0					.9		2.3	
	2.5					1.0					2.5		4.3	
	1.3					2.2					1.3		3.7	
	2.2					2.6					2.2		3.9	
	1.6					5.1					1.6		2.5	
	.6					1.6					1.6		5.1	
	0.0					2.4					.6		1.6	
	0.0					.0					0.0		2.4	

EXPERIMENT NO. 7

Objective:

To assess the delay impact to aircraft in 1983 for the following runway configuration under VFR1 conditions, assuming no airport or ATC system improvements have been implemented:

Arrival Runways

9L, 9R, 12

Departure Runways

9R, 9L, 12

Related Comparison Experiments:

Prior experiment 1 serves as the 1978 demand level baseline for comparison to this experiment.

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EXPERIMENT 7 RESULTS

D-7

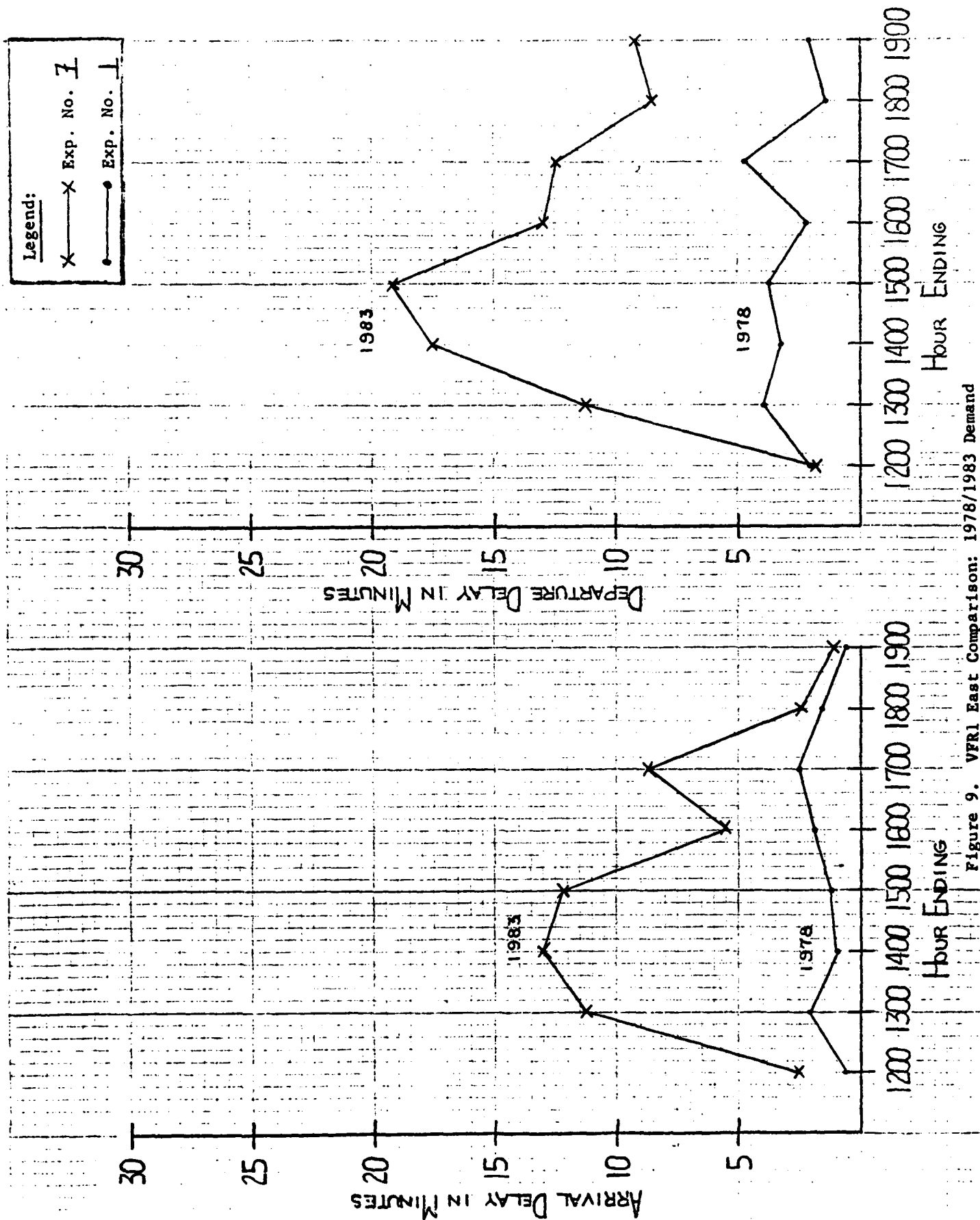


Figure 9. VFR1 East Comparison: 1978/1983 Demand

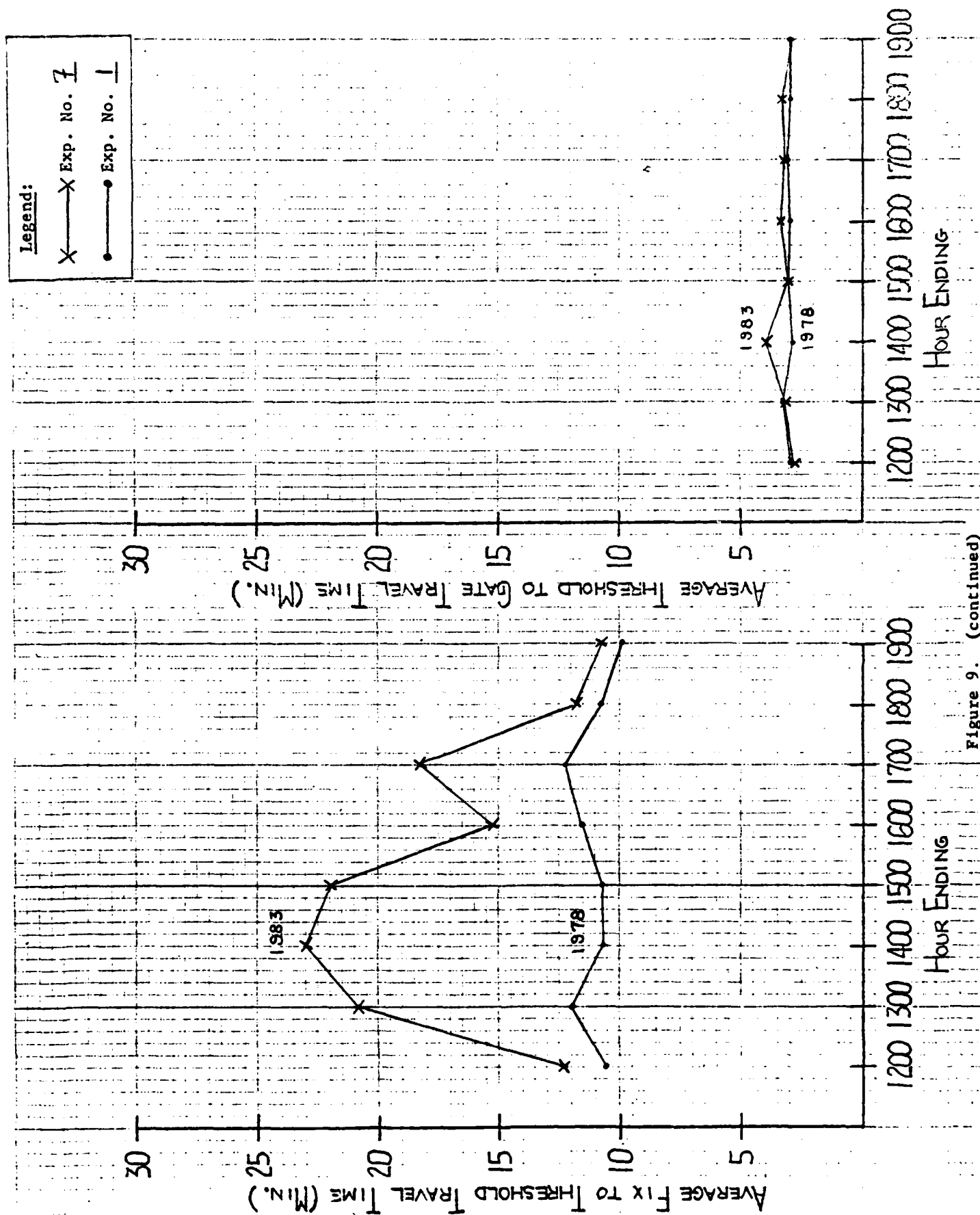


Figure 9. (continued)

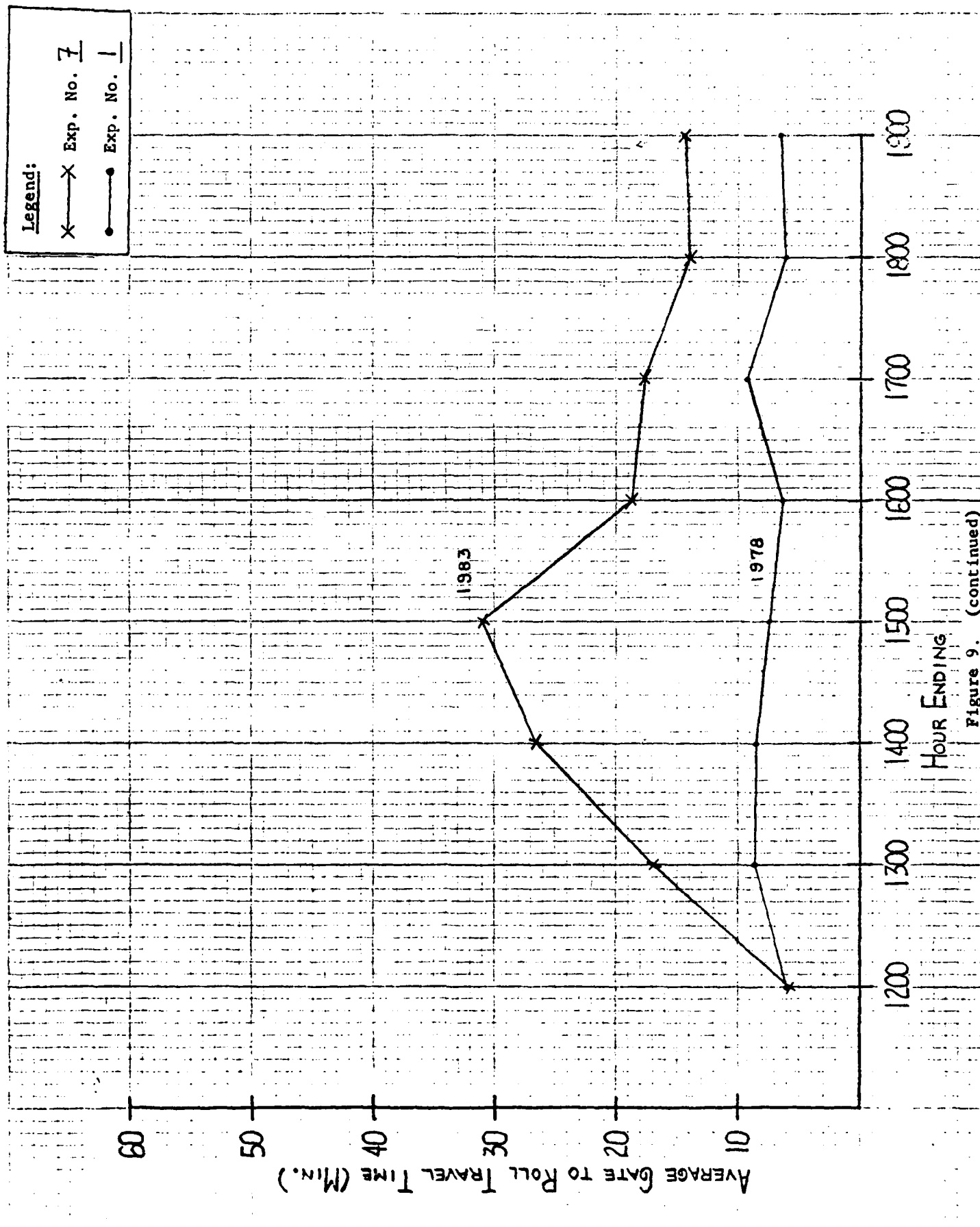


Figure 9. (continued)

TABLE 13

SET - 2 DEMAND
IFR-EASTERLY FLOW

EXPERIMENT NUMBER		RUNWAY 9R	RUNWAY 9L	RUNWAY 12	TOTAL
4 AND 6	ARRIVALS	133	135	0	268
	DEPARTURES	102	139	29	270
	TOTAL	235	274	29	538
34	ARRIVALS	196	151	0	347
	DEPARTURES	128	166	38	332
	TOTAL	324	317	38	679
	ARRIVALS				
	DEPARTURES				
	TOTAL				
	ARRIVALS				
	DEPARTURES				
	TOTAL				
	ARRIVALS				
	DEPARTURES				
	TOTAL				
	ARRIVALS				
	DEPARTURES				
	TOTAL				
	ARRIVALS				
	DEPARTURES				
	TOTAL				

NOTE: Runway closure during the IFR-2 time period in Experiment No. 6 is performed by the model.

EXPERIMENT NO. 4

Objective:

To obtain baseline delay estimates for the following runway configuration in IFR1 for 1978 demand:

Arrival Runways

Departure Runways

9L,9R

9R,9L,12

Related Comparison Experiments:

Prior experiment 1 examines this configuration with VFR1 weather and 1978 demand.

Experiment 6 assesses the delay impact of moving from IFR1 to IFR2 conditions.

Experiment 34 also compares to this study case, wherein demand is increased to the 1983 level under IFR1 conditions.

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TABLE 14

EXPERIMENT 4 RESULTS

MIAMI INTER. AIRPORT EXPER.-4 ROUTES=1978 CONFIG=A SEPAR=78IFR1 DEMAND=78

TIME	AVERAGE FLOW RATES										AVERAGE TRAVEL TIME			
	ARRIVALS					DEPARTURES					FIX TO THRESH		GATE TO ROLL	
	RWY 9R	RWY 12	RWY 9L	RWY 12	RWY 9L	RWY 12	RWY 9R	RWY 12	RWY 9L	RWY 12	THRESH	TD GATE	THRESH	GATE TO ROLL
1100-1200	18.0	24.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.47	2.95	9.57	9.57
1200-1300	25.3	21.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.96	3.00	10.68	10.68
1300-1400	14.7	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.21	3.43	13.84	13.84
1400-1500	16.2	17.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.60	2.98	11.14	11.14
1500-1600	17.6	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.02	3.43	6.74	6.74
1600-1700	21.7	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.92	3.01	6.94	6.94
1700-1800	8.5	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.06	3.06	7.51	7.51
1800-1900	10.8	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.57	3.66	6.34	6.34
1900-2000	.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.24	.60	4.50	4.50
GRAND TOTALS														
TIME	AVERAGE DELAYS										AVERAGE DELAYS			
	ARRIVALS					DEPARTURES					ARR DELAY		DEF DELAY	
	RWY 9R	RWY 12	RWY 9L	RWY 12	RWY 9L	RWY 12	RWY 9R	RWY 12	RWY 9L	RWY 12	DELAY	CNG	DELAY	DEF
1100-1200	1.2	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	.1	5.7	5.7
1200-1300	8.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	.3	6.1	6.1
1300-1400	3.1	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	.0	8.9	8.9
1400-1500	2.3	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	.3	7.2	7.2
1500-1600	5.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	.2	2.6	2.6
1600-1700	7.0	.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	.0	2.4	2.4
1700-1800	2.5	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	.0	2.6	2.6
1800-1900	.1	.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.5	.0	2.0	2.0
1900-2000	.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.0	.0	.1	.1

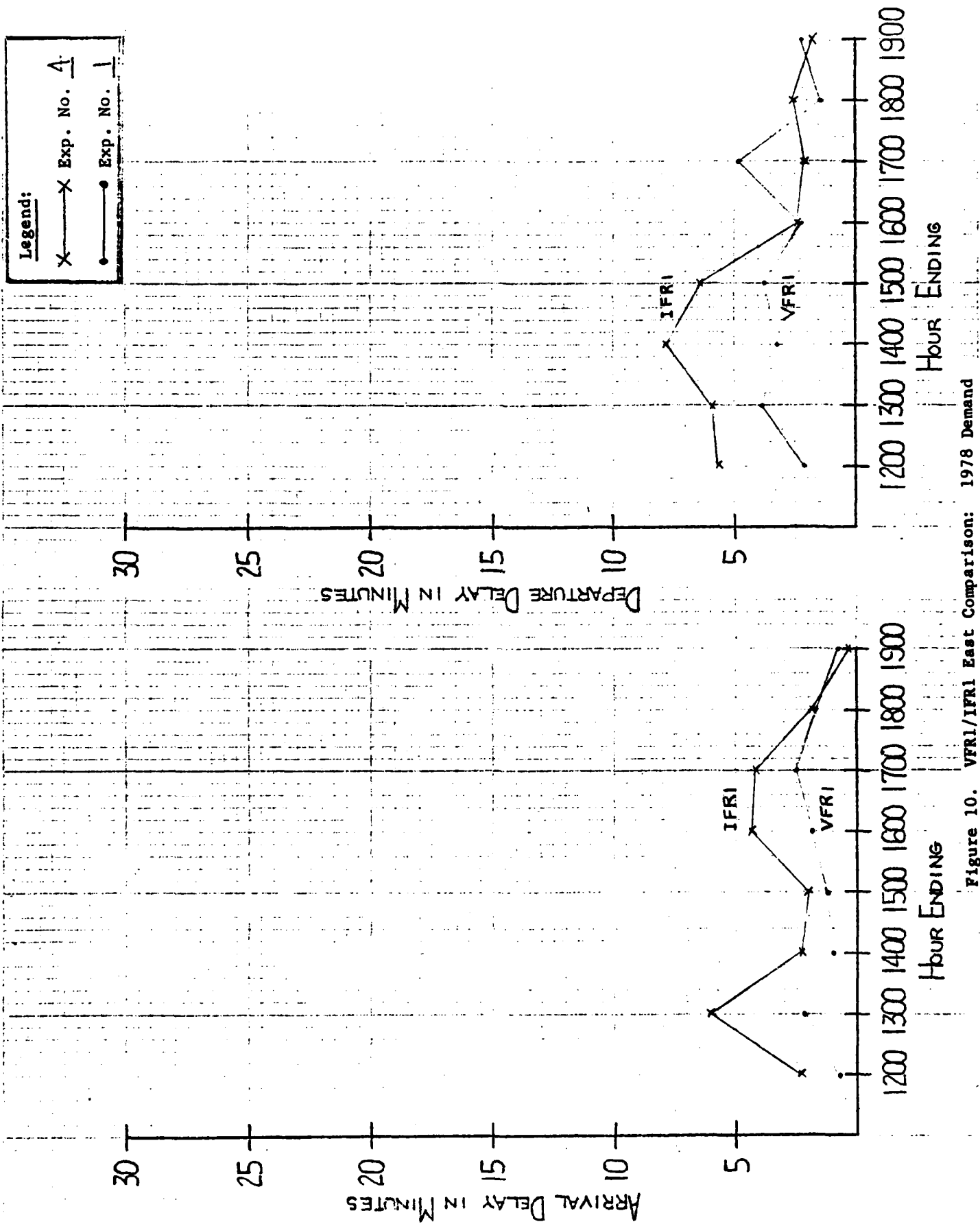


Figure 10. VFR1/IFR1 East Comparison: 1978 Demand

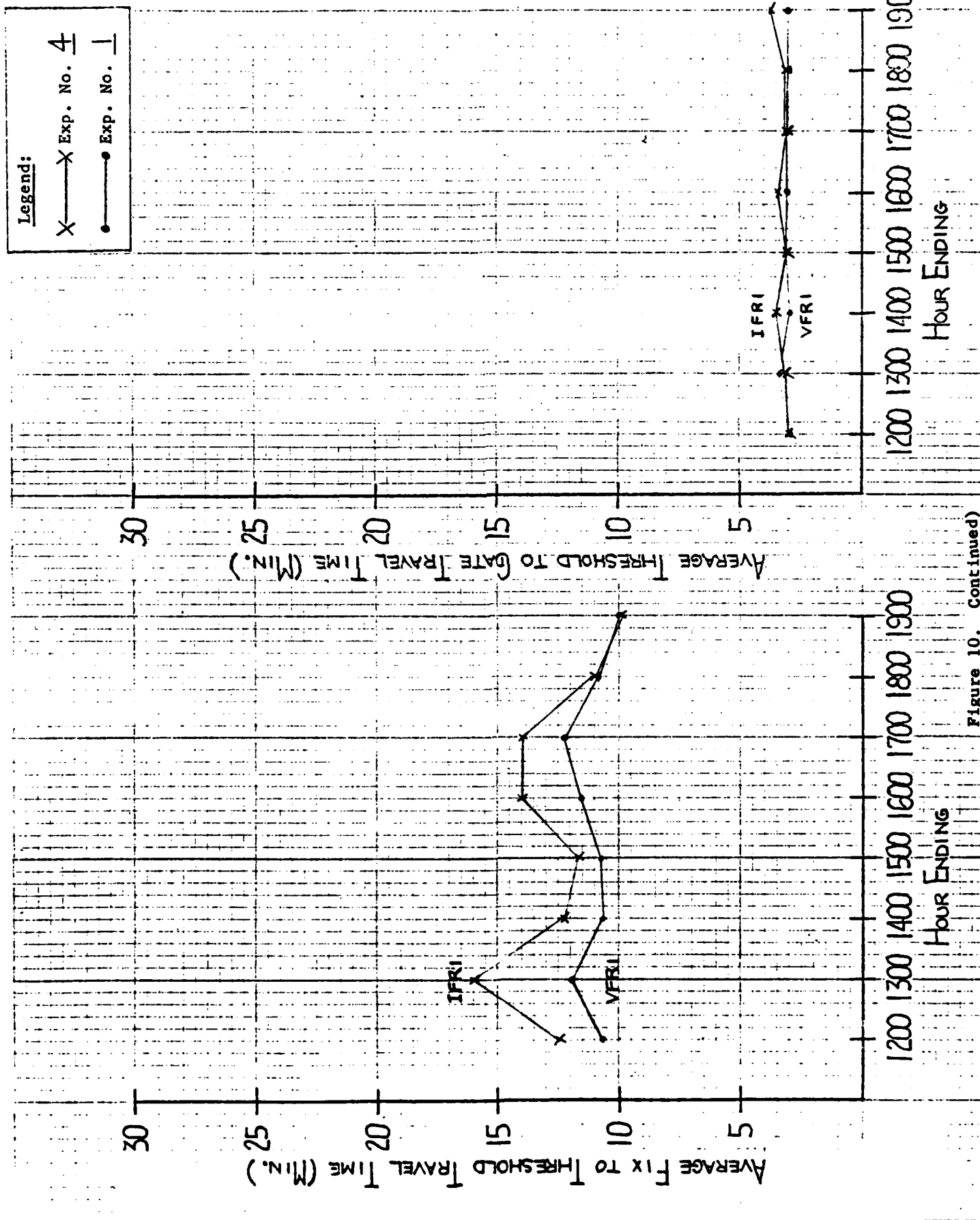


Figure 10. Continued)

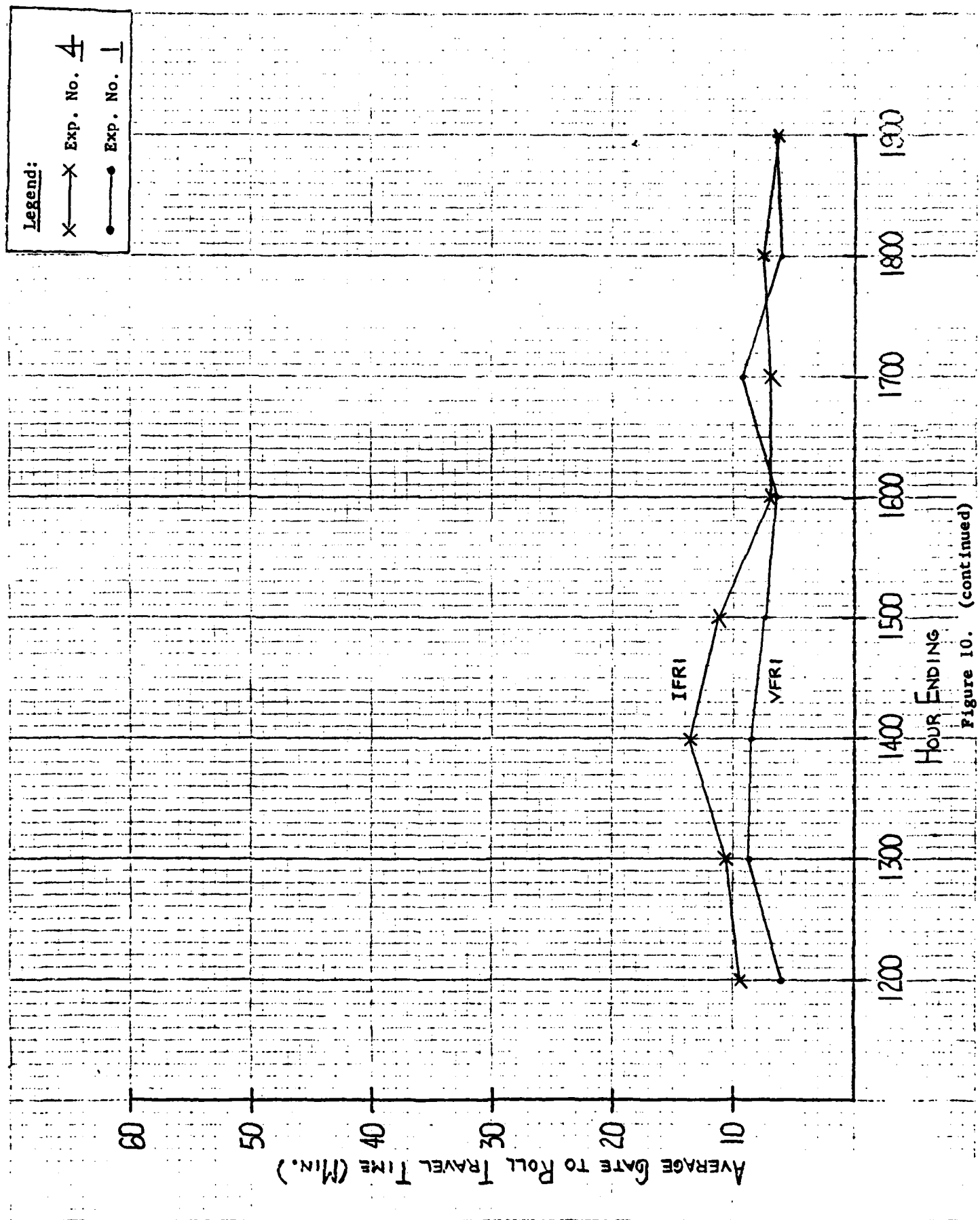


Figure 10. (continued)

EXPERIMENT NO. 34

Objective:

To assess the delay impact to aircraft in 1983 for the following runway configuration under IFR1 conditions, assuming no airport or ATC system improvements have been implemented:

Arrival Runways

9L,9R

Departure Runways

9R,9L,12

Related Comparison Experiments:

Prior experiment 4 serves as the 1978 demand level baseline for comparison to this experiment.

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TABLE 15

EXPERIMENT 34 RESULTS

MIAMI INTER. AIRPORT EXPER.-34 ROUTES=1978 CONFIG=A SEPAR=781FRI DEMAND=83

TIME	ARRIVALS										DEPARTURES										AVERAGE TRAVEL TIME		
	RWY 9L					RWY 12					RWY 9L					RWY 12					FIX TO THRESH	THRESH TO GATE	GATE TO ROLL
	9R	RWY	RWY	RWY	TOT	DE- HAND	DIF	RWY	RWY	RWY	9R	RWY	RWY	RWY	TOT	DE- HAND	DIF	RWY	RWY	RWY			
1100-1200	19.9	18.2	0.0	0.0	0.0	38.1	51.0	-12.9	3.0	9.0	3.1	0.0	0.0	0.0	15.1	17.0	-1.9	0.0	0.0	0.0	14.19	3.12	6.66
1200-1300	23.4	24.4	0.0	0.0	0.0	47.8	54.0	-6.2	14.3	18.5	3.9	0.0	0.0	0.0	36.7	54.0	-17.3	0.0	0.0	0.0	27.54	3.38	15.69
1300-1400	24.8	24.8	0.0	0.0	0.0	49.6	42.0	7.6	9.9	14.4	2.8	0.0	0.0	0.0	27.1	58.0	-30.9	0.0	0.0	0.0	34.78	6.22	34.01
1400-1500	23.4	19.6	0.0	0.0	0.0	43.0	41.0	2.0	11.6	11.6	3.3	0.0	0.0	0.0	26.5	32.0	-5.5	0.0	0.0	0.0	25.80	8.22	65.72
1500-1600	24.3	19.6	0.0	0.0	0.0	43.9	59.0	-15.1	6.9	12.5	4.5	0.0	0.0	0.0	23.9	38.0	-14.1	0.0	0.0	0.0	27.90	9.82	92.92
1600-1700	21.7	15.0	0.0	0.0	0.0	36.7	35.0	1.7	7.5	17.1	5.2	0.0	0.0	0.0	29.8	33.0	-3.2	0.0	0.0	0.0	37.87	6.53	116.84
1700-1800	19.0	15.5	0.0	0.0	0.0	34.5	40.0	-5.5	7.0	16.0	4.3	0.0	0.0	0.0	27.3	67.0	-39.7	0.0	0.0	0.0	41.25	10.11	118.60
1800-1900	14.9	10.6	0.0	0.0	0.0	25.5	25.0	.5	6.8	19.1	4.8	0.0	0.0	0.0	30.7	33.0	-2.3	0.0	0.0	0.0	34.31	12.10	121.87
1900-2000	3.9	1.8	0.0	0.0	0.0	5.7	0.0	5.7	22.0	30.5	5.1	0.0	0.0	0.0	57.6	0.0	57.6	0.0	0.0	0.0	27.68	10.08	130.75
GRAND TOTAL																							
TIME	ARRIVALS										DEPARTURES										AVERAGE DELAYS		
	RWY 9L					RWY 12					RWY 9L					RWY 12					ARR DELAY	DEP DELAY	CNG
	9R	RWY	RWY	RWY	TOT	RWY	TAX IN	RWY	RWY	RWY	9R	RWY	RWY	RWY	TOT	RWY	TAX OUT	RWY	RWY	RWY			
1100-1200	4.3	4.2	0.0	0.0	0.0	4.3	.1	1.9	2.5	2.3	9.2	11.4	7.1	0.0	0.0	2.3	.0	.1	.1	0.0	4.4	2.4	0.0
1200-1300	28.3	8.1	0.0	0.0	0.0	18.0	.3	30.7	26.3	13.4	30.7	26.3	13.4	0.0	0.0	9.8	.1	1.1	1.1	0.0	18.3	10.9	0.0
1300-1400	35.4	14.7	0.0	0.0	0.0	25.1	2.9	56.8	23.4	47.3	56.8	23.4	47.3	0.0	0.0	41.7	.0	10.4	9.2	.9	28.0	29.7	0.0
1400-1500	26.5	3.1	0.0	0.0	0.0	15.9	5.2	72.8	25.7	83.0	72.8	25.7	83.0	0.0	0.0	50.4	.0	22.7	15.3	9.2	21.1	61.2	0.0
1500-1600	29.9	3.2	0.0	0.0	0.0	18.0	6.7	108.4	31.0	66.8	108.4	31.0	66.8	0.0	0.0	59.1	.0	27.1	26.4	15.3	24.6	88.4	0.0
1600-1700	44.3	5.1	0.0	0.0	0.0	28.1	3.3	96.1	27.8	62.8	96.1	27.8	62.8	0.0	0.0	53.5	.0	22.6	38.4	15.3	31.4	112.7	0.0
1700-1800	56.6	5.8	0.0	0.0	0.0	32.1	7.2	101.7	29.7	52.4	101.7	29.7	52.4	0.0	0.0	51.9	.0	23.7	42.2	15.3	39.3	114.5	0.0
1800-1900	37.7	7.4	0.0	0.0	0.0	24.7	8.7	78.1	24.7	53.8	78.1	24.7	53.8	0.0	0.0	47.6	.0	17.2	61.9	42.2	33.5	117.9	0.0
1900-2000	19.7	6.6	0.0	0.0	0.0	19.1	7.5							0.0	0.0					61.9	26.7	126.7	0.0

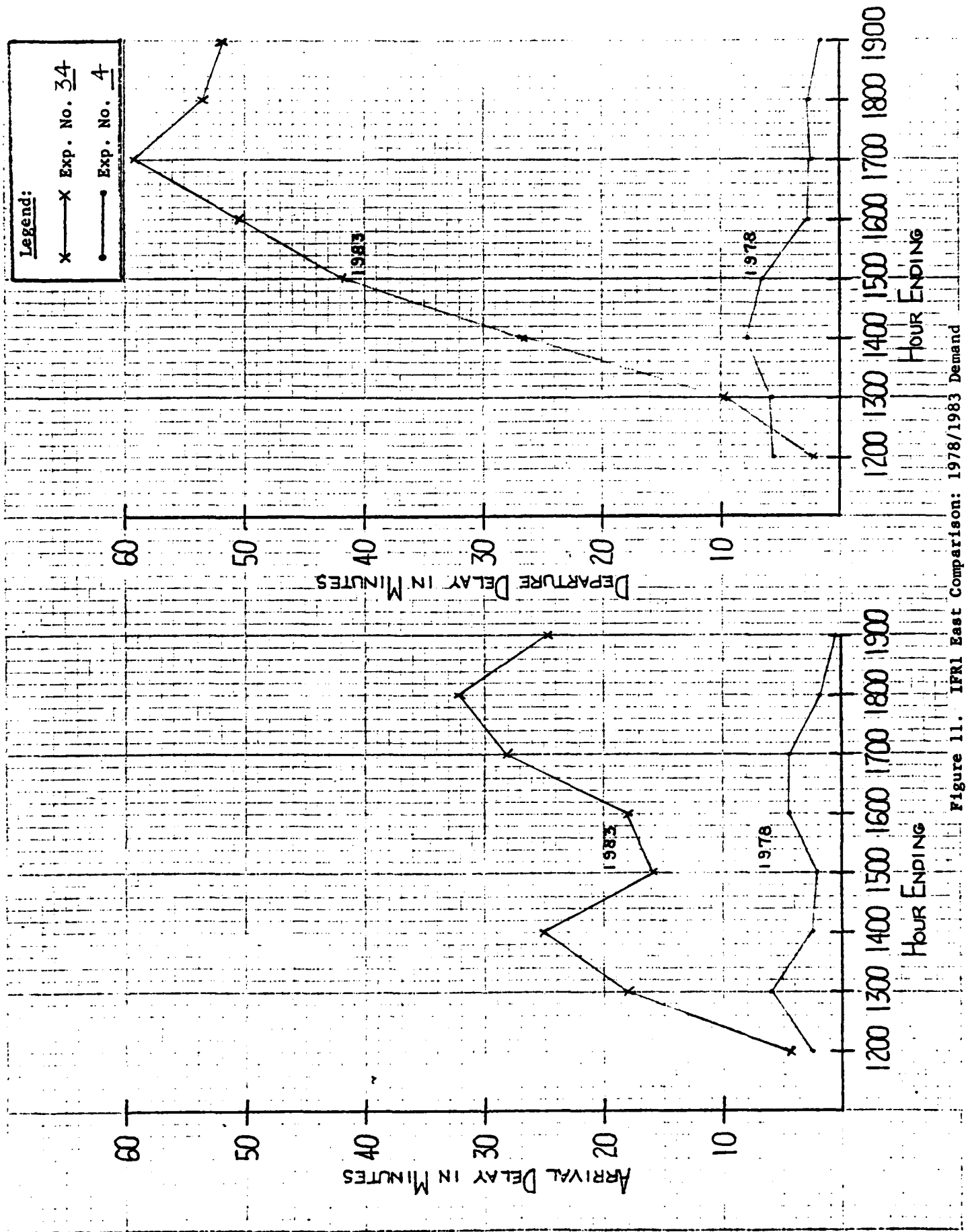


Figure 11. IFRI East Comparison: 1978/1983 Demand

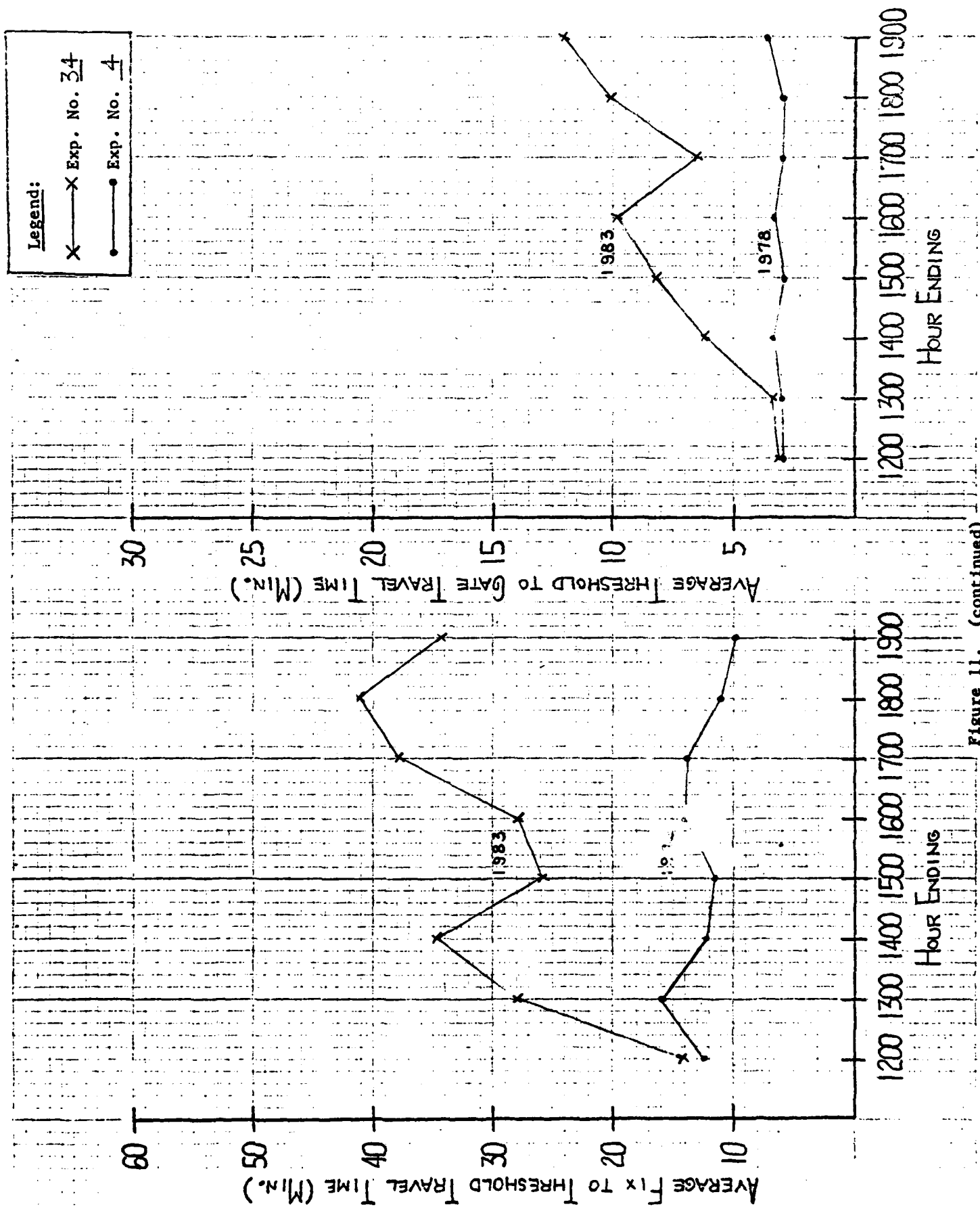


Figure 11. (continued)

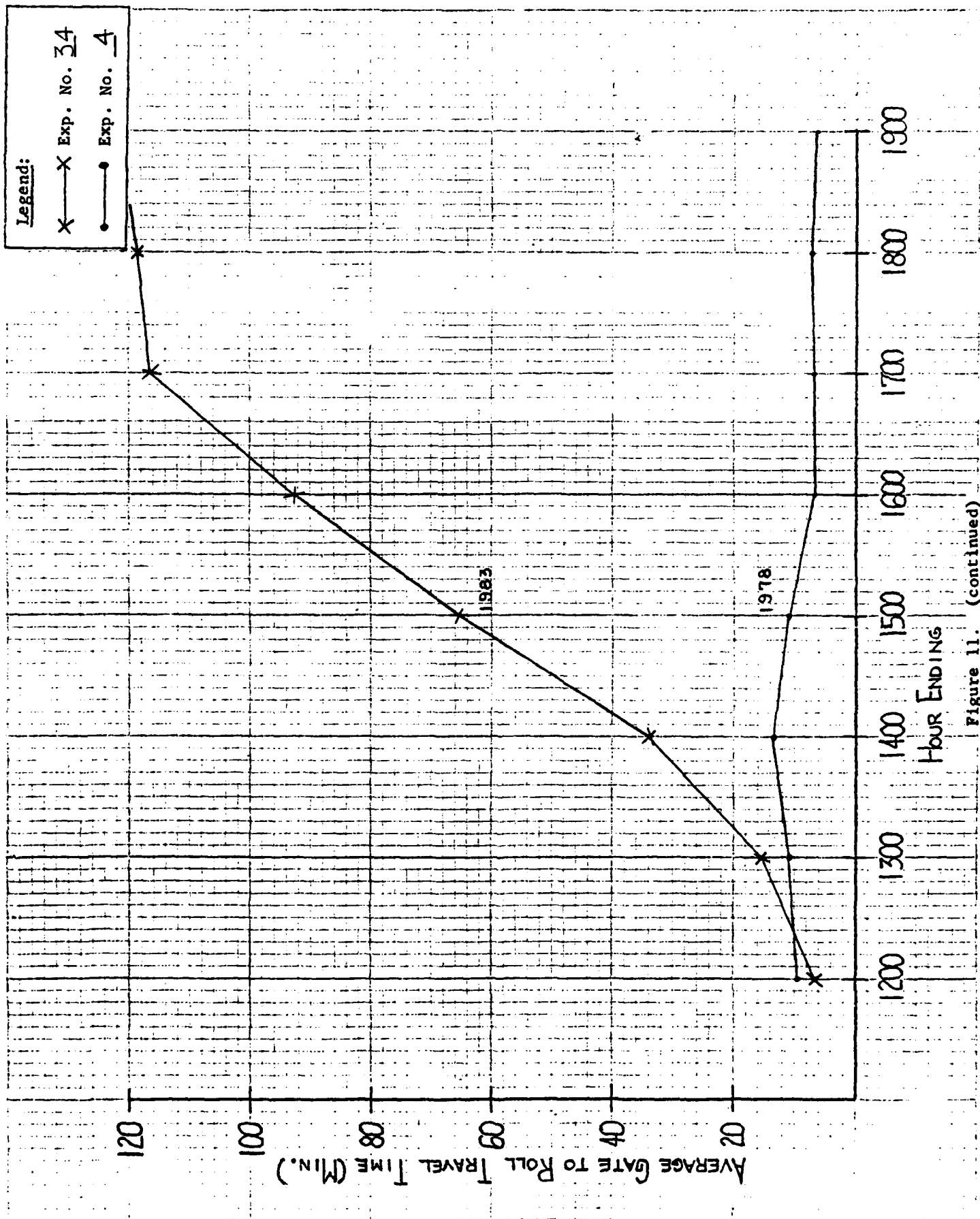


Figure 11. (continued)

EXPERIMENT NO. 6

Objective:

To assess the delay impact to aircraft in 1978 for the following runway configuration under IFR2 conditions:

Arrival Runways

Departure Runways

None

9L

Related Comparison Experiments:

Prior experiment 4 examines this configuration with IFR1 weather and 1978 demand.

(An IFR1/IFR2/IFR1 situation was used for this experiment, with the IFR2 conditions lasting from 1300 to 1400 hours. This enables the recovery of the airport from the IFR2 deterioration to be studied.)

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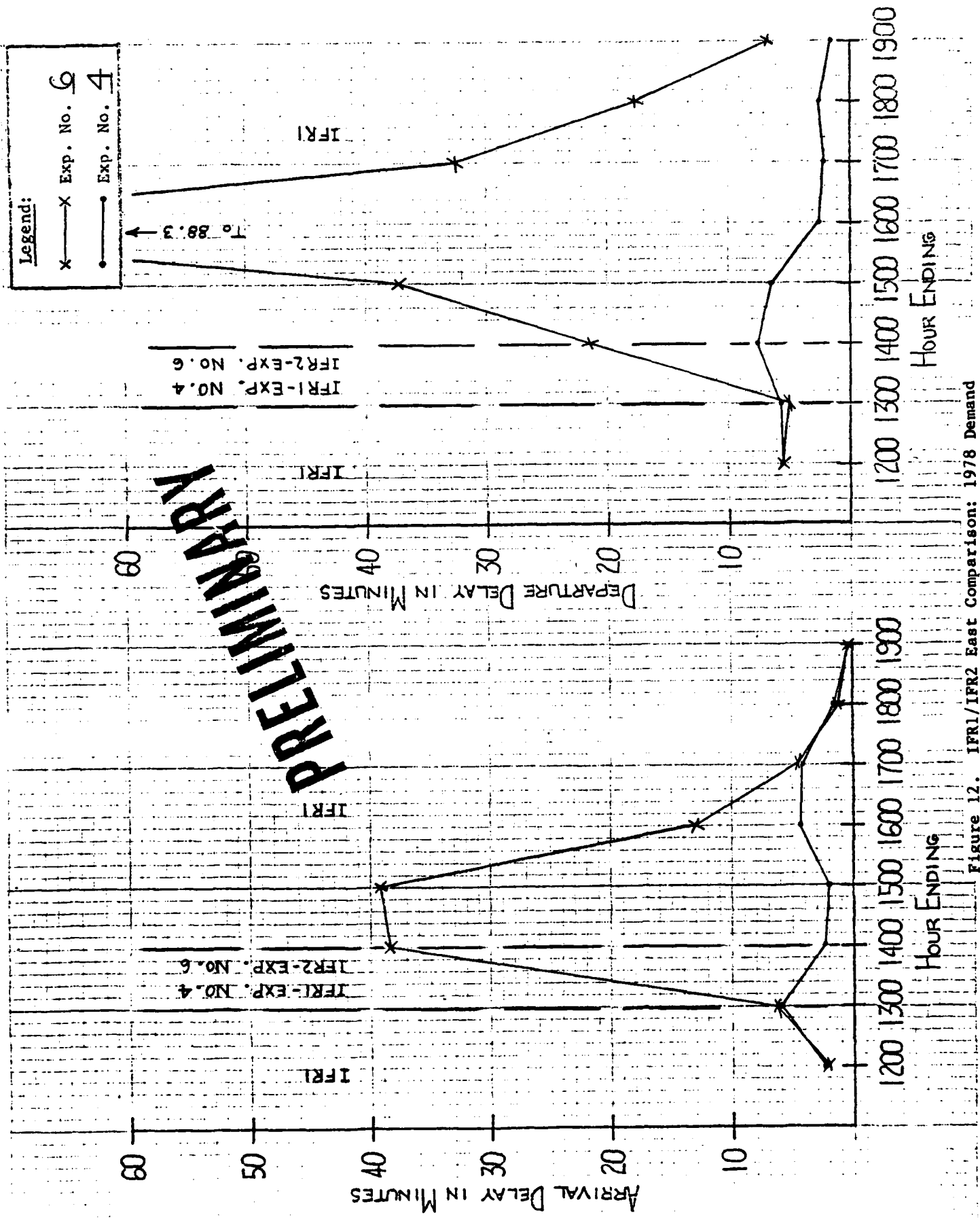


Figure 12. IFR1/IFR2 East Comparison: 1978 Demand

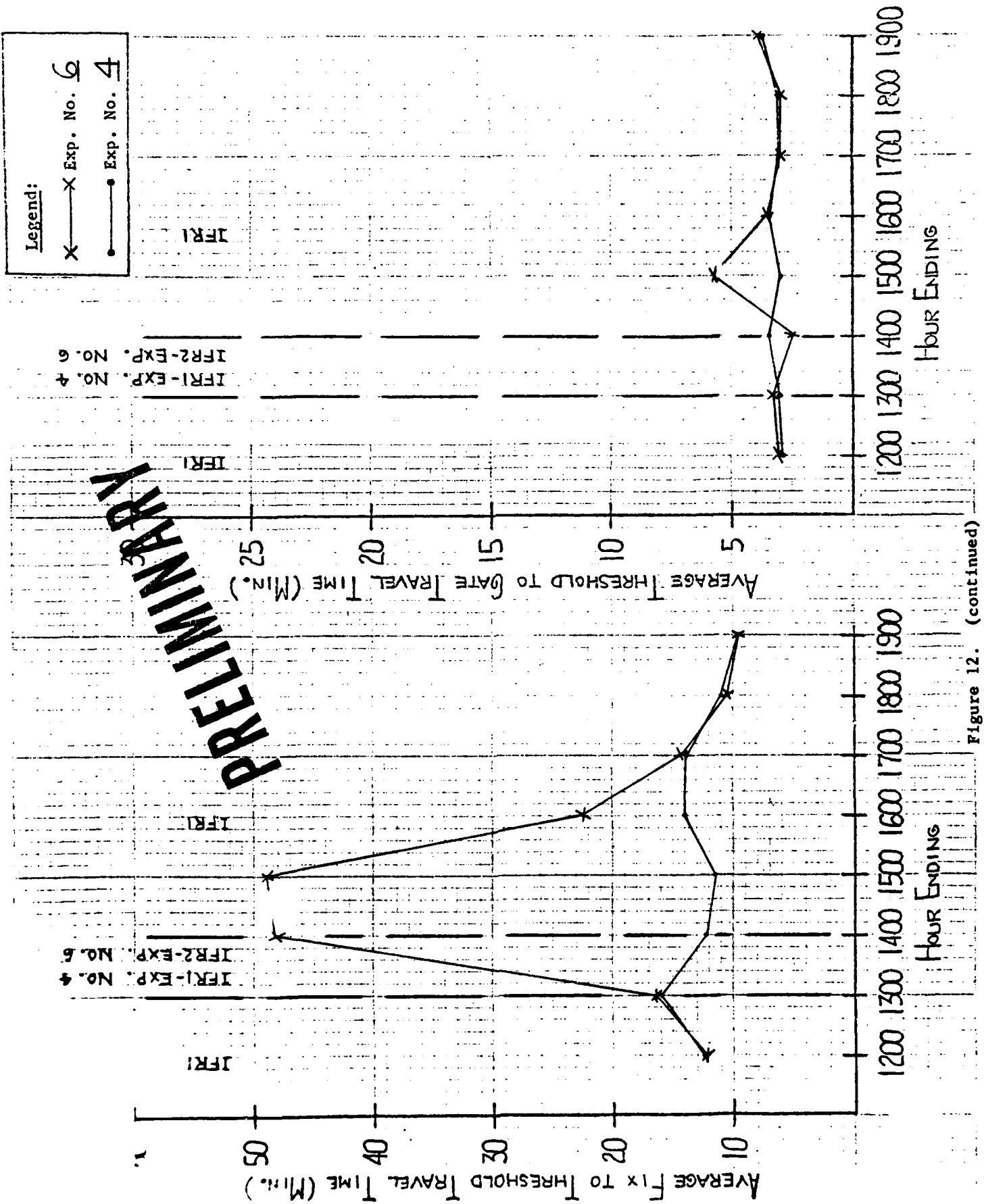


Figure 12. (continued)

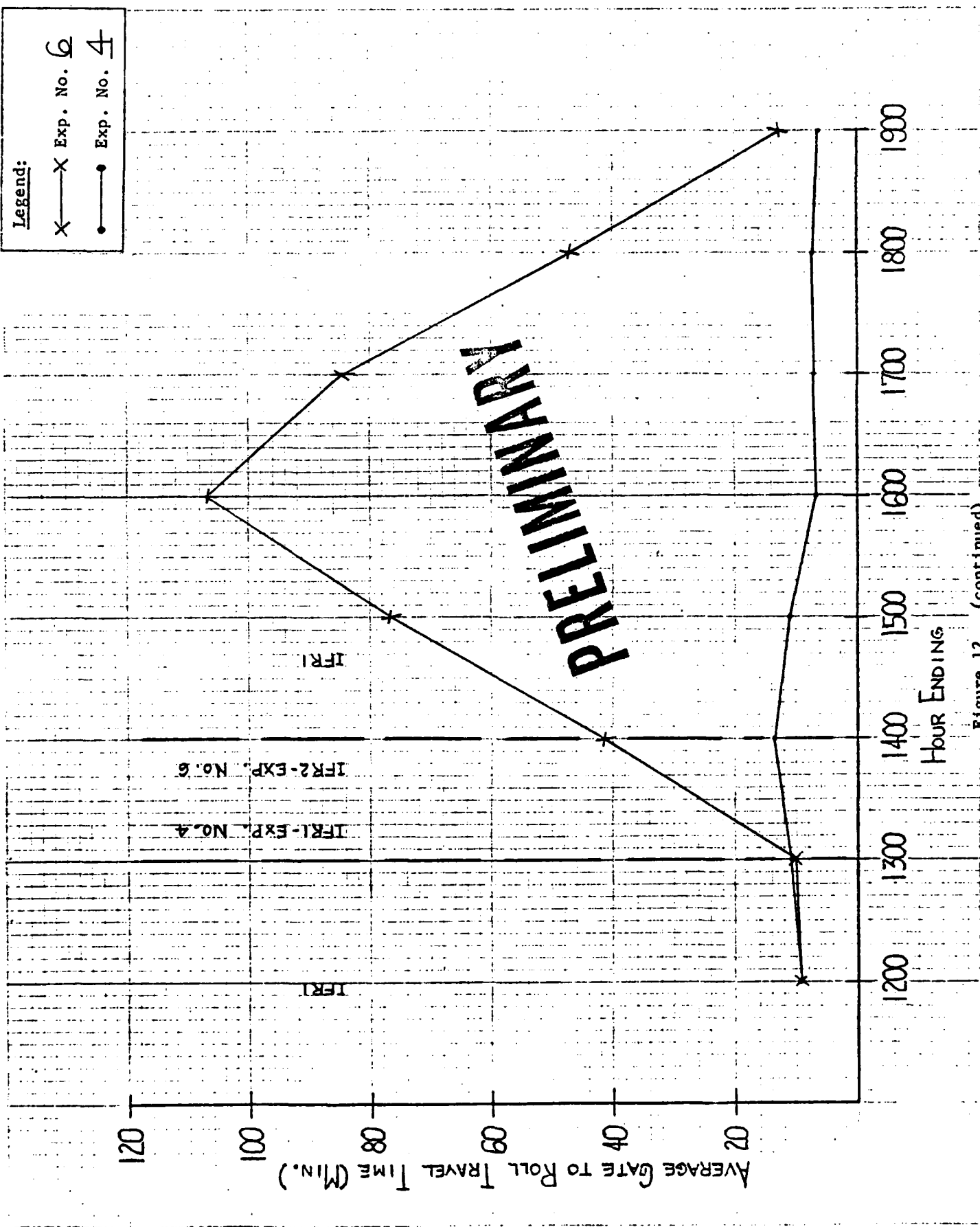


Figure 12. (continued)

TABLE 17

SET - 3 DEMAND
VFR-WEASTERLY FLOW

EXPERIMENT NUMBER		RUNWAY 27R	RUNWAY 27L	RUNWAY 30	TOTAL
2	ARRIVALS	162	24	130	316
	DEPARTURES	169	133	0	302
	TOTAL	331	157	130	618
8	ARRIVALS	192	31	172	395
	DEPARTURES	195	172	3	370
	TOTAL	387	203	175	765
3	ARRIVALS	202	114	0	316
	DEPARTURES	169	133	0	302
	TOTAL	371	247	0	618
38	ARRIVALS	240	155	0	395
	DEPARTURES	196	171	3	370
	TOTAL	436	326	3	765
	ARRIVALS				
	DEPARTURES				
	TOTAL				
	ARRIVALS				
	DEPARTURES				
	TOTAL				
	ARRIVALS				
	DEPARTURES				
	TOTAL				

EXPERIMENT NO. 2

Objective:

To obtain baseline delay estimates for the following runway configuration in VFR1 for 1978 demand:

Arrival Runways

27L, 27R, 30

Departure Runways

27L, 27R, 30

Related Comparison Experiments:

Experiment 5 examines this westerly configuration with IFR1 weather and 1978 demand.

Experiment 3 assesses the delay impact of VFR2 conditions and 1978 demand.

Experiment 8 compares to this baseline case, wherein demand is increased to the 1983 level under VFR1 conditions.

Data Package No. 5
Miami International Airport
Airport Improvement Task Force Delay Studies
February 1980

TABLE 18

EXPERIMENT 2 RESULTS

MIAMI INTER. AIRPORT EXPER.-2 ROUTES=1978 CONFIG=B SEPAR=78VFR1 DEMAND=78

TIME	AVERAGE FLOW RATES										AVERAGE TRAVEL TIME																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	ARRIVALS					DEPARTURES					FIX TO THRESH					THRESH TO GATE					GATE TO ROLL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
	RWY 27R	RWY 27L	RWY 30	RWY	TOT	DE- MAND	DIF	RWY 27R	RWY 27L	RWY 30	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND	DIF	RWY	TOT	DE- MAND

EXPERIMENT NO. 8

Objective:

To assess the delay impact to aircraft in 1983 for the following runway configuration under VFR1 conditions, assuming no airport or ATC system improvements have been implemented:

Arrival Runways

27L, 27R, 30

Departure Runways

27L, 27R, 30

Related Comparison Experiments:

Prior experiment 2 serves as the 1978 demand level baseline for comparison to this experiment. Experiment 38 assesses the delay impact of VFR2 conditions and 1983 demand.

Data Package No. 5
Miami International Airport
Airport Improvement Task Force Delay Studies
February 1980

TABLE 19
EXPERIMENT 8 RESULTS

MIAMI INTER. AIRPORT EXPER.-8 ROUTES=1978 CONFIG=8 SEPAR=78VFR1 DEMAND=83

TIME	AVERAGE FLOW RATES										AVERAGE TRAVEL TIME					
	ARRIVALS					DEPARTURES					FIX TO THRESH		THRESH TO GATE		GATE TO ROLL	
	RWY 27R	RWY 30	RWY 27L	RWY 30	TOT	DE- MAND	DIF	RWY 27R	RWY 27L	RWY 30	RWY 27R	RWY 27L	RWY 30	RWY 27R	RWY 27L	RWY 30
1100-1200	21.9	4.8	22.2	0.0	0.0	48.9	55.0	-6.1	9.9	6.8	0.0	0.0	0.0	16.7	21.0	-4.3
1200-1300	29.8	6.2	24.8	0.0	0.0	60.8	58.0	2.8	20.6	32.4	1.0	0.0	0.0	54.0	63.0	-9.0
1300-1400	26.4	3.0	18.0	0.0	0.0	47.4	52.0	-4.6	26.1	29.8	1.0	0.0	0.0	56.9	66.0	-9.1
1400-1500	24.9	5.0	21.0	0.0	0.0	50.9	44.0	6.9	28.5	14.0	0.0	0.0	0.0	42.5	33.0	9.5
1500-1600	24.3	4.0	27.3	0.0	0.0	55.6	71.0	-15.4	24.2	22.4	0.0	0.0	0.0	48.6	45.0	3.6
1600-1700	24.7	4.0	25.7	0.0	0.0	54.4	38.0	16.4	25.4	12.6	1.0	0.0	0.0	39.0	35.0	4.0
1700-1800	23.1	2.0	15.7	0.0	0.0	40.8	46.0	-5.2	28.5	34.9	0.0	0.0	0.0	63.4	72.0	-8.6
1800-1900	16.9	2.0	14.6	0.0	0.0	33.5	31.0	2.5	28.8	19.1	0.0	0.0	0.0	47.9	35.0	12.9
1900-2000	0.0	0.0	2.7	0.0	0.0	2.7	0.0	2.7	1.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0
AVERAGE DELAYS																
TIME	ARRIVALS					DEPARTURES					ARR.		DEP.		GRAND TOTAL	
	RWY 27R	RWY 30	RWY 27L	RWY 30	TOT	RWY CRS	TAX IN	RWY 27R	RWY 27L	RWY 30	RWY 27R	RWY 27L	RWY 30	DELAY	DELAY	
1100-1200	.9	1.9	1.8	0.0	0.0	1.4	.0	1.7	.6	0.0	0.0	0.0	1.3	1.5	1.7	
1200-1300	7.8	7.1	4.2	0.0	0.0	6.3	.0	11.2	3.3	1.4	0.0	0.0	6.3	7.1	9.6	
1300-1400	14.6	.5	1.2	0.0	0.0	8.6	.0	18.8	1.8	2.1	0.0	0.0	9.6	9.0	13.8	
1400-1500	15.3	1.2	1.2	0.0	0.0	8.1	.1	27.1	1.2	0.0	0.0	0.0	18.6	8.5	29.0	
1500-1600	3.2	1.7	6.0	0.0	0.0	4.4	.1	17.3	2.4	0.0	0.0	0.0	10.4	5.0	18.6	
1600-1700	4.5	3.1	20.9	0.0	0.0	12.2	.1	15.3	2.2	4.6	0.0	0.0	10.8	12.4	14.5	
1700-1800	3.5	1.4	.9	0.0	0.0	2.4	.0	13.8	4.3	0.0	0.0	0.0	8.6	2.5	10.2	
1800-1900	3.6	0.0	2.0	0.0	0.0	2.7	0.0	13.4	.7	0.0	0.0	0.0	8.3	3.2	13.4	
1900-2000	0.0	0.0	2.3	0.0	0.0	2.3	0.0	.0	0.0	0.0	0.0	0.0	.0	2.3	7.4	

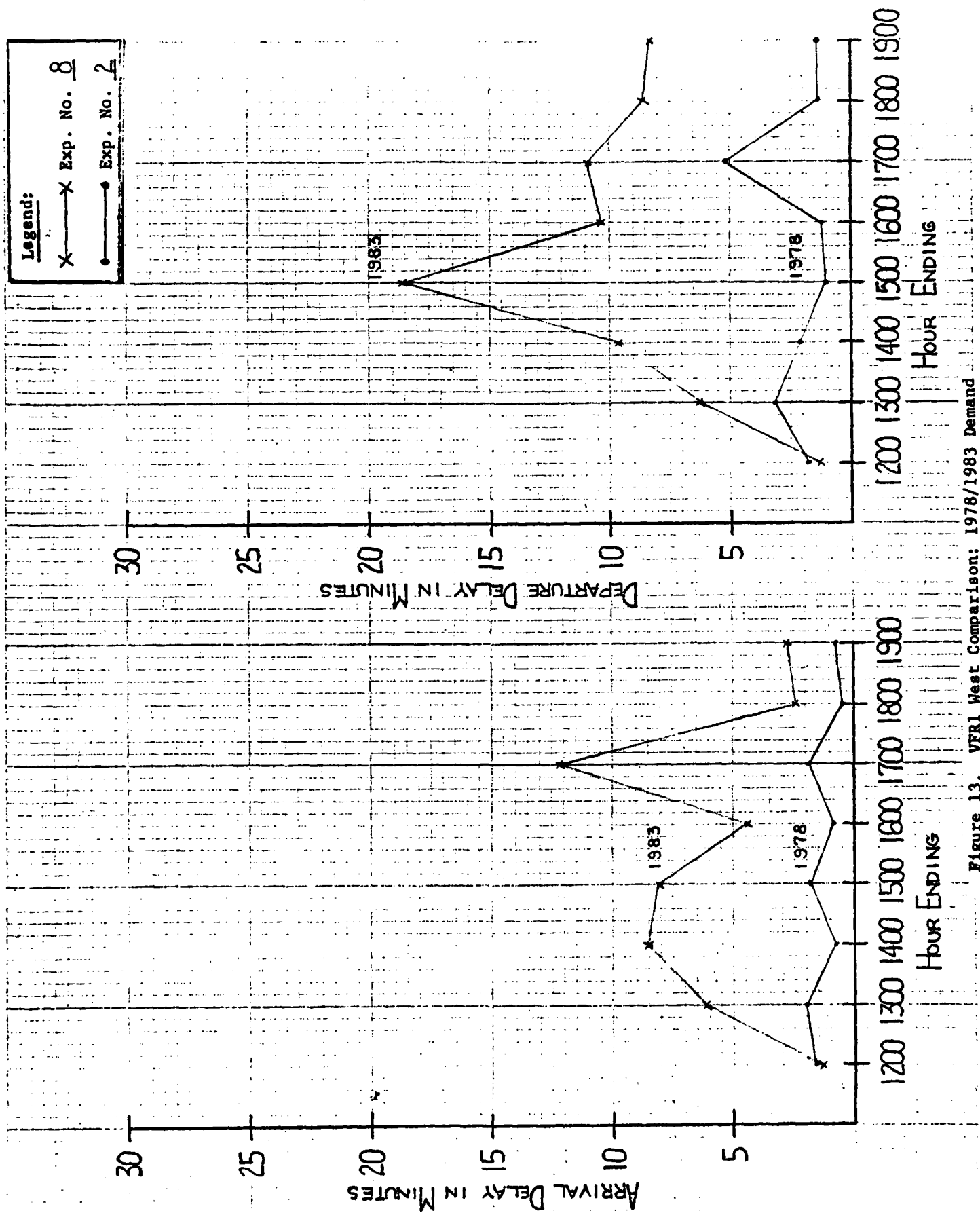


Figure 13. VFR1 West Comparison: 1978/1983 Demand

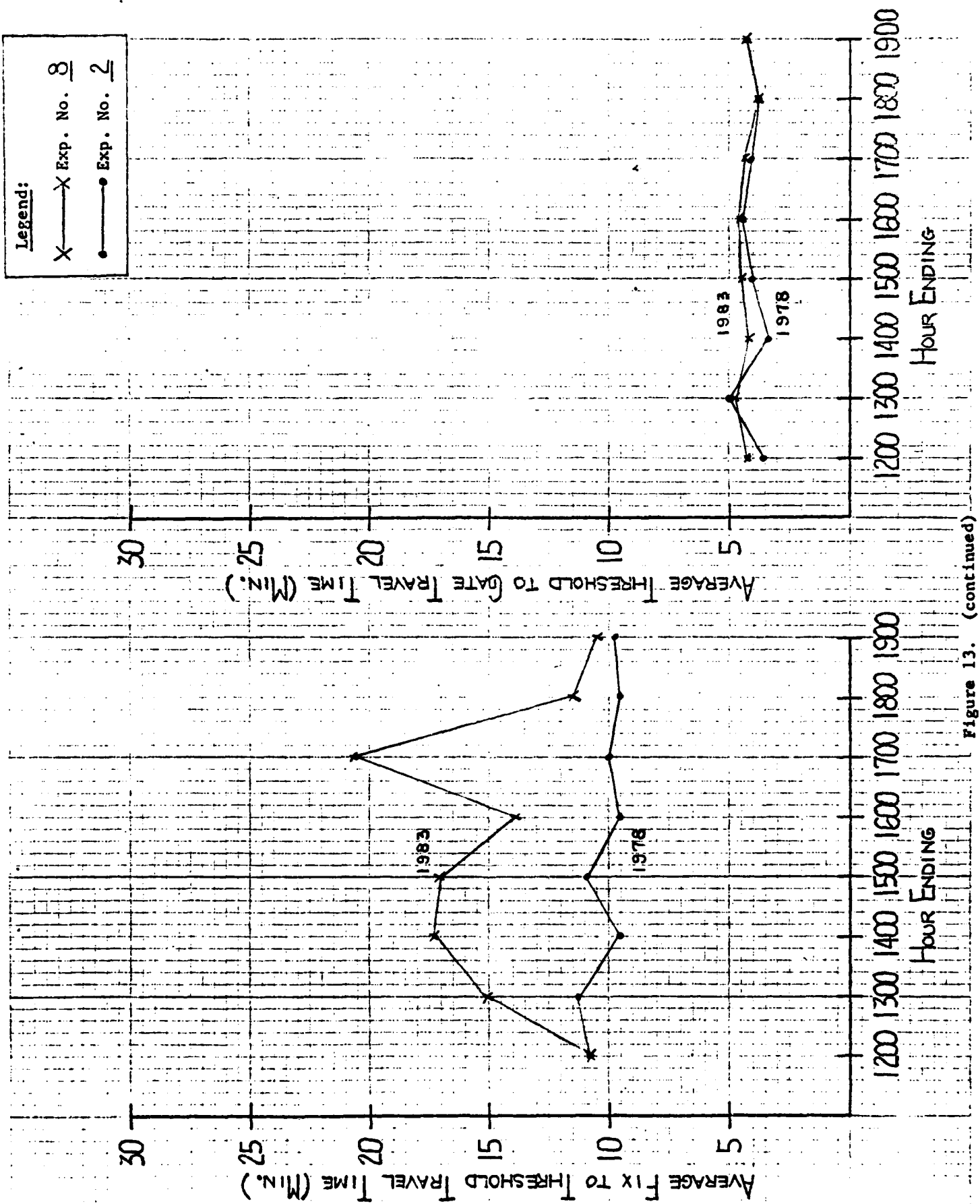


Figure 13. (continued)

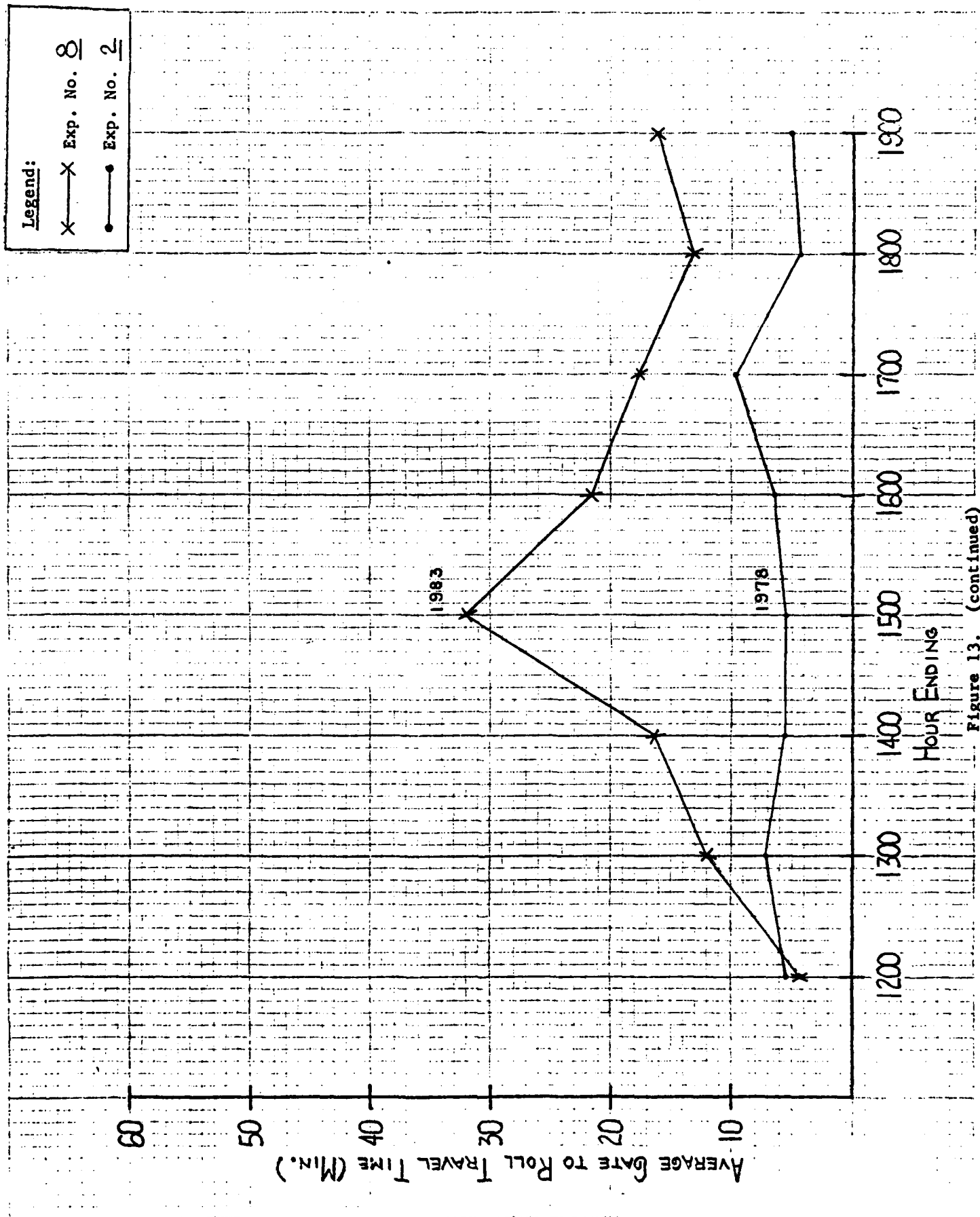


Figure 13. (continued)

EXPERIMENT NO. 3

Objective:

To assess the delay impact to aircraft in 1978 for the following runway configuration under VFR2 conditions (This experiment also establishes baseline delay estimates for comparison to experiment 38):

Arrival Runways

27L, 27R

Departure Runways

27L, 27R, 30

Related Comparison Experiments:

Prior experiment 2 examines this configuration with VFR1 weather and 1978 demand.

Experiment 38 also compares to this study case, wherein demand is increased to the 1983 level under VFR2 conditions.

Data Package No. 5
Miami International Airport
Airport Improvement Task Force Delay Studies
February 1980

TABLE 20

EXPERIMENT 3 RESULTS

MIAMI INTER. AIRPORT EXPER.-3 ROUTES=1978 CONFIG=B SEPAR=78VFR2 DEMAND=78

AVERAGE FLOW RATES													AVERAGE TRAVEL TIME												
ARRIVALS													DEPARTURES												
TIME	RWY 27L	RWY 30	RWY 27L	RWY 30	TOT	DE- HAND	DIF	RWY 27L	RWY 30	RWY 27L	RWY 30	TOT	DE- HAND	DIF	FIX TO THRESH	GATE TO ROL									
1100-1200	29.0	20.0	0.0	0.0	0.0	49.0	0.0	0.0	10.7	5.0	0.0	0.0	0.0	15.7	18.0	-2.3	10.15	4.09	5.42	10.15	4.09	5.42			
1200-1300	25.0	23.0	0.0	0.0	0.0	48.0	0.0	0.0	19.3	17.0	0.0	0.0	0.0	36.3	37.0	-0.7	9.56	4.77	6.81	9.56	4.77	6.81			
1300-1400	23.0	11.0	0.0	0.0	0.0	34.0	35.0	-1.0	20.0	26.0	0.0	0.0	0.0	46.0	47.0	-1.0	9.57	3.67	7.08	9.57	3.67	7.08			
1400-1500	23.5	15.0	0.0	0.0	0.0	38.5	43.0	-4.5	25.2	13.0	0.0	0.0	0.0	38.2	37.0	1.2	8.61	4.13	8.77	8.61	4.13	8.77			
1500-1600	28.4	15.0	0.0	0.0	0.0	43.4	39.0	4.4	13.8	12.0	0.0	0.0	0.0	25.8	27.0	-1.2	9.59	4.57	7.73	9.59	4.57	7.73			
1600-1700	30.0	14.0	0.0	0.0	0.0	44.0	47.0	-3.0	22.9	14.6	0.0	0.0	0.0	37.5	40.0	-2.5	12.56	4.19	12.32	12.56	4.19	12.32			
1700-1800	25.1	5.0	0.0	0.0	0.0	30.1	26.0	4.1	22.1	22.4	0.0	0.0	0.0	44.5	40.0	4.5	10.86	3.89	8.47	10.86	3.89	8.47			
1800-1900	18.0	10.0	0.0	0.0	0.0	28.0	28.0	0.0	6.0	13.0	0.0	0.0	0.0	36.0	35.0	1.0	7.74	4.43	5.95	7.74	4.43	5.95			
1900-2000	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	3.0	0.0	0.0	0.0	9.0	9.0	0.0	0.00	4.93	4.08	0.00	4.93	4.08			
GRAND TOTAL																									
AVERAGE DELAYS													AVERAGE DELAYS												
ARRIVALS													DEPARTURES												
TIME	RWY 27L	RWY 30	RWY 27L	RWY 30	TOT	RWY CRS	TAX IN	RWY 27L	RWY 30	RWY 27L	RWY 30	TOT	RWY CRS	TAX OUT	RWY CNG	ARR DELAY	DEF DELAY								
1100-1200	2.5	.9	0.0	0.0	0.0	1.8	0.0	.1	1.8	.7	0.0	0.0	1.5	.1	.9	0.0	1.9	2.4	1.9	2.4	1.9	2.4			
1200-1300	.8	1.5	0.0	0.0	0.0	1.2	0.0	.4	3.4	1.9	0.0	0.0	2.7	.0	1.6	0.0	1.5	4.4	1.5	4.4	1.5	4.4			
1300-1400	1.6	.7	0.0	0.0	0.0	1.3	0.0	.1	4.5	2.5	0.0	0.0	3.3	.1	1.2	0.0	1.4	4.6	1.4	4.6	1.4	4.6			
1400-1500	2.2	.3	0.0	0.0	0.0	1.4	.0	.0	5.5	1.5	0.0	0.0	4.1	.0	1.1	.0	1.5	5.3	1.5	5.3	1.5	5.3			
1500-1600	3.5	.8	0.0	0.0	0.0	2.6	.0	.4	3.5	1.2	0.0	0.0	2.4	.0	2.3	0.0	3.0	4.8	3.0	4.8	3.0	4.8			
1600-1700	6.9	1.0	0.0	0.0	0.0	5.0	0.0	.4	12.0	1.3	0.0	0.0	7.8	.0	1.6	.1	5.4	9.6	5.4	9.6	5.4	9.6			
1700-1800	3.5	0.0	0.0	0.0	0.0	2.9	0.0	.0	8.9	1.4	0.0	0.0	5.2	.0	.6	.0	3.0	5.8	3.0	5.8	3.0	5.8			
1800-1900	1.1	.0	0.0	0.0	0.0	.7	0.0	.2	3.0	.8	0.0	0.0	2.2	.0	.9	0.0	.9	3.2	.9	3.2	.9	3.2			
1900-2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.2	0.0	0.0	.2	.0	.7	0.0	0.0	1.0	0.0	0.0	1.0	0.0			

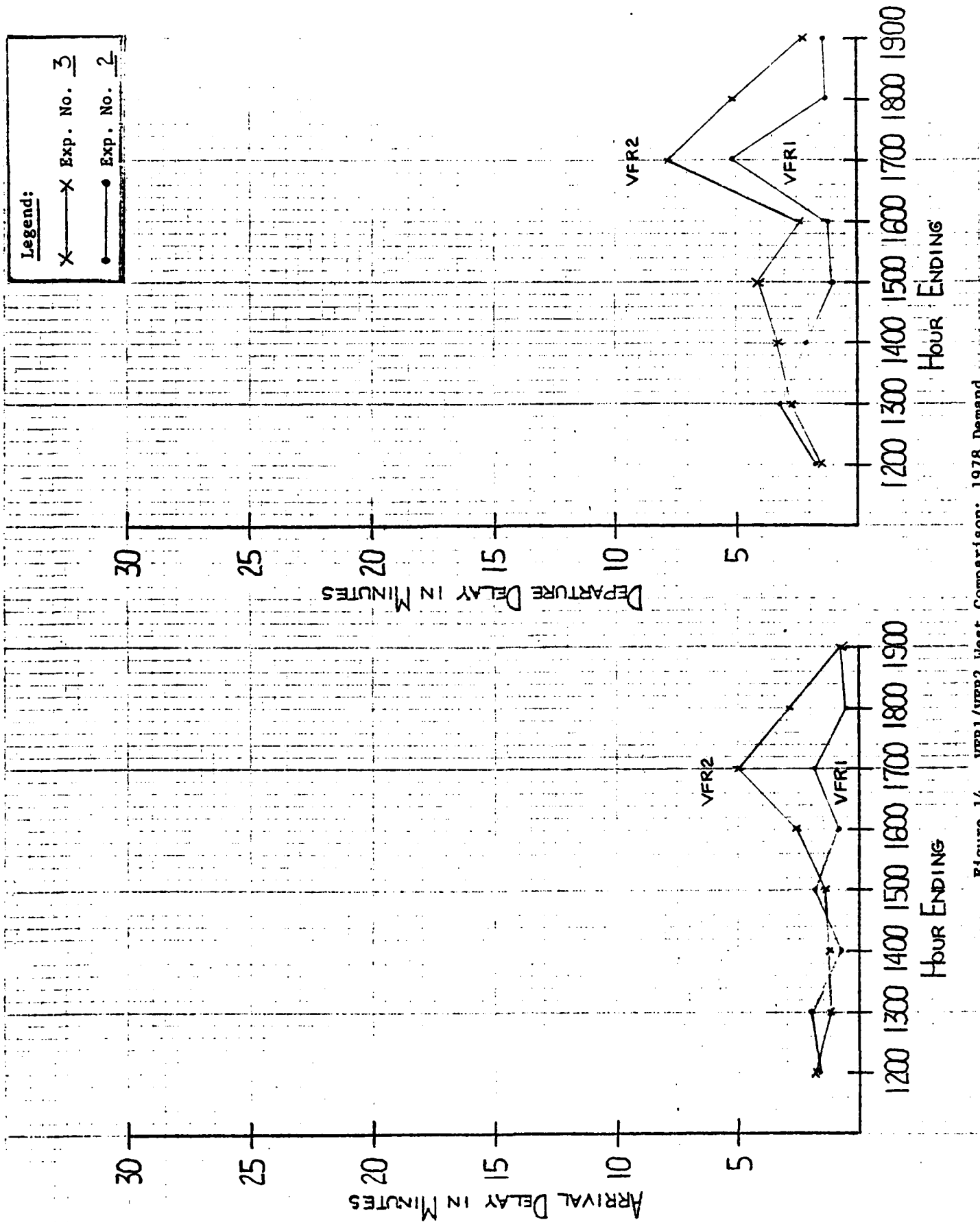


Figure 14. VFR1/VFR2 West Comparison: 1978 Demand

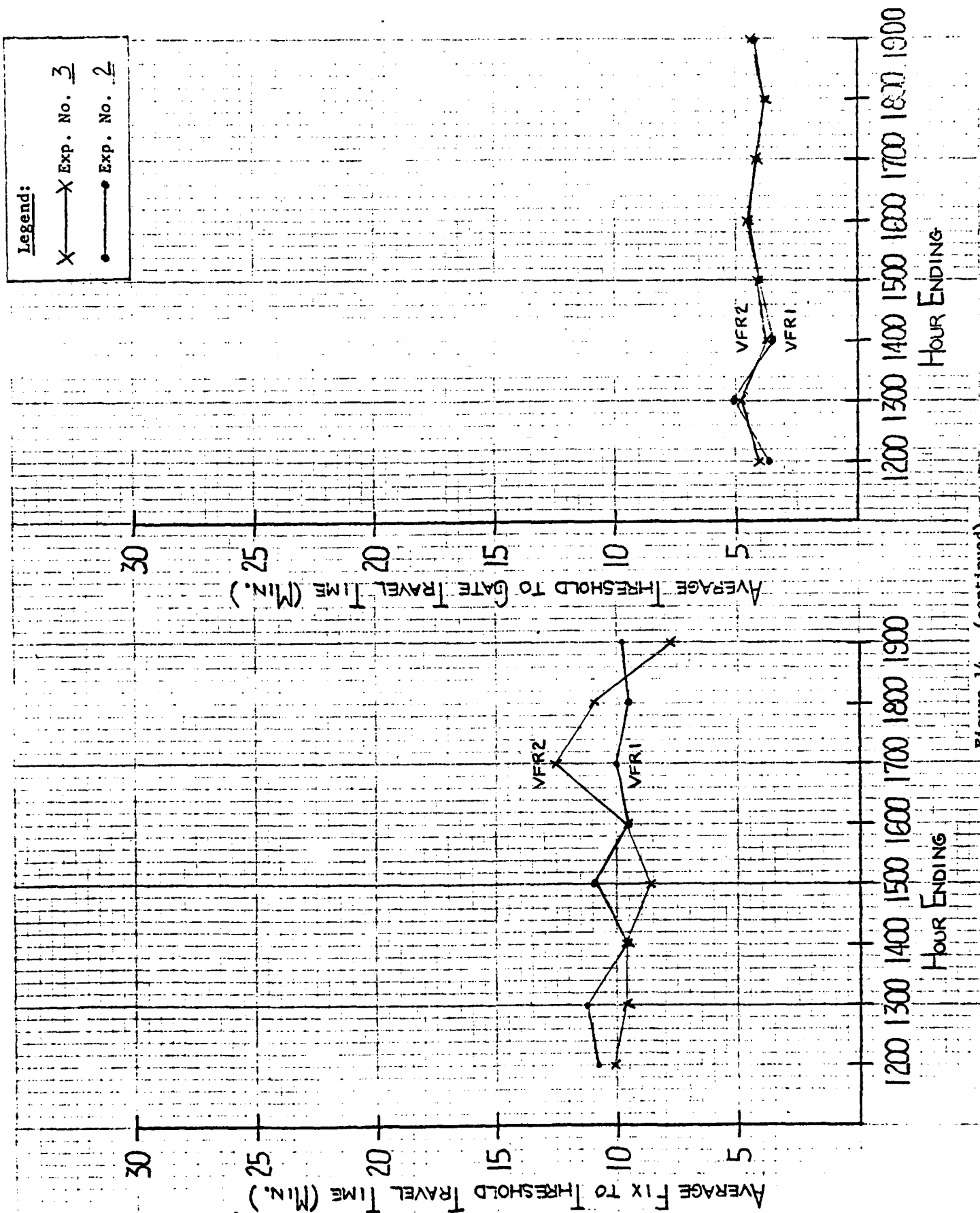


Figure 14. (continued)

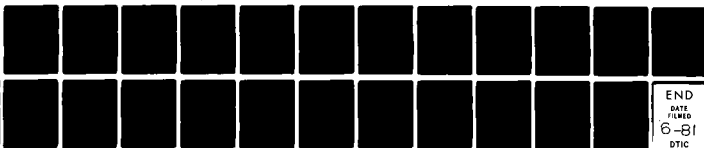
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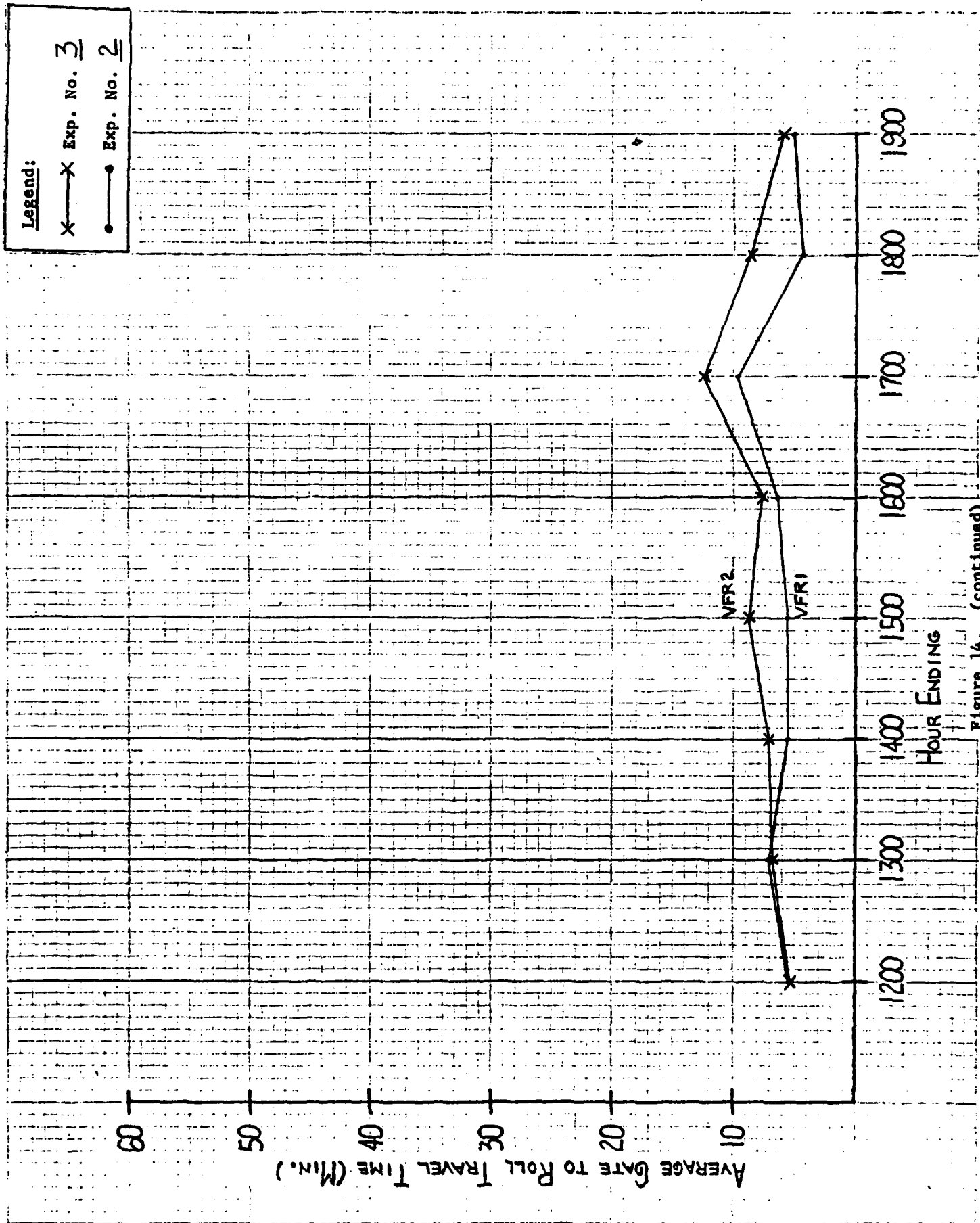


Figure 14. (continued)

EXPERIMENT NO. 38

Objective:

To assess the delay impact to aircraft in 1983 for the following runway configuration under VFR2 conditions, assuming no airport or ATC system improvements have been implemented:

Arrival Runways

27L,27R

Departure Runways

27L,27R,30

Related Comparison Experiments:

Prior experiment 3 serves as the 1978 demand level baseline for comparison to this experiment.

Prior experiment 8 examines this configuration with VFR1 weather and 1983 demand.

Data Package No. 5
Miami International Airport
Airport Improvement Task Force Delay Studies
February 1980

TABLE 21

EXPERIMENT 38 RESULTS

MIAMI INTER. AIRPORT EXPER.-38 ROUTES=1978 CONFIG-B SEPAR=78VFR2 DEMAND=83

AVERAGE FLOW RATES															AVERAGE TRAVEL TIME			
TIME	ARRIVALS					DEPARTURES					FIX TO THRESH	THRESH TO GATE	GATE TO KOLL					
	RWY 27L	RWY 30	RWY	TOT	DE-MAND	DIF	RWY 27L	RWY 30	RWY	TOT				DE-MAND	DIF			
1100-1200	24.1	23.8	0.0	0.0	0.0	47.9	55.0	-7.1	9.7	6.7	0.0	0.0	0.0	16.4	21.0	-4.6		
1200-1300	29.4	23.2	0.0	0.0	0.0	52.6	58.0	-5.4	20.7	27.2	1.0	0.0	0.0	48.9	63.0	-14.1		
1300-1400	26.7	20.0	0.0	0.0	0.0	46.7	52.0	-5.3	26.5	29.1	1.0	0.0	0.0	56.6	66.0	-9.4		
1400-1500	27.1	17.0	0.0	0.0	0.0	44.1	44.0	.1	27.3	19.0	0.0	0.0	0.0	46.3	33.0	13.3		
1500-1600	27.2	25.1	0.0	0.0	0.0	52.3	71.0	-18.7	24.6	21.2	0.0	0.0	0.0	45.8	45.0	.8		
1600-1700	26.6	18.9	0.0	0.0	0.0	45.5	38.0	7.5	25.2	12.1	1.0	0.0	0.0	38.3	35.0	3.3		
1700-1800	26.9	14.0	0.0	0.0	0.0	40.9	46.0	-5.1	25.1	31.2	0.0	0.0	0.0	56.3	72.0	-15.7		
1800-1900	27.9	12.0	0.0	0.0	0.0	39.9	31.0	8.9	25.5	22.5	0.0	0.0	0.0	48.0	35.0	13.0		
1900-2000	24.1	1.0	0.0	0.0	0.0	25.1	0.0	25.1	11.4	2.0	0.0	0.0	0.0	13.4	0.0	13.4		
AVERAGE DELAYS																		
	RWY 27L	RWY 30	RWY <td>TOT</td> <td>TAX IN</td> <td>RWY 27L</td> <td>RWY 30</td> <td>RWY<td>TOT</td><td>RWY CRS</td><td>RWY TAX OUT</td><td>RWY CRS</td><td>RWY CNG</td></td>	TOT	TAX IN	RWY 27L	RWY 30	RWY <td>TOT</td> <td>RWY CRS</td> <td>RWY TAX OUT</td> <td>RWY CRS</td> <td>RWY CNG</td>	TOT	RWY CRS	RWY TAX OUT	RWY CRS	RWY CNG					
1100-1200	2.0	1.3	0.0	0.0	0.0	1.7	1.2	0.0	0.0	1.5	.1	.5	0.0					
1200-1300	14.4	.8	0.0	0.0	0.0	12.4	5.8	1.0	0.0	8.4	.0	3.2	.0					
1300-1400	31.7	1.1	0.0	0.0	0.0	19.4	5.1	.7	0.0	11.7	.0	5.3	2.1					
1400-1500	40.9	.7	0.0	0.0	0.0	28.1	4.7	0.0	0.0	18.4	.0	7.4	6.9					
1500-1600	40.2	2.5	0.0	0.0	0.0	20.2	4.7	0.0	0.0	13.0	.0	4.2	5.2					
1600-1700	53.2	2.4	0.0	0.0	0.0	20.2	2.4	1.2	0.0	14.1	.0	1.7	3.7					
1700-1800	74.7	.5	0.0	0.0	0.0	18.4	6.2	0.0	0.0	11.6	.0	1.4	1.4					
1800-1900	66.0	1.3	0.0	0.0	0.0	19.9	2.7	0.0	0.0	11.9	.0	3.5	4.5					
1900-2000	62.0	1.5	0.0	0.0	0.0	21.0	.2	0.0	0.0	17.8	0.0	2.5	3.6					
AVERAGE DELAYS																		
	ARR.	ARR.	ARR.	ARR.	ARR.	ARR.	ARR.	ARR.	ARR.	ARR.	ARR.	ARR.	ARR.					
	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8					
	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3					
	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0					
	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3	26.3					
	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8					
	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3	32.3					
	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5					
	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4					
	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2	47.2					
	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5					
GRAND TOTAL																		
	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39					
	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92	26.92					

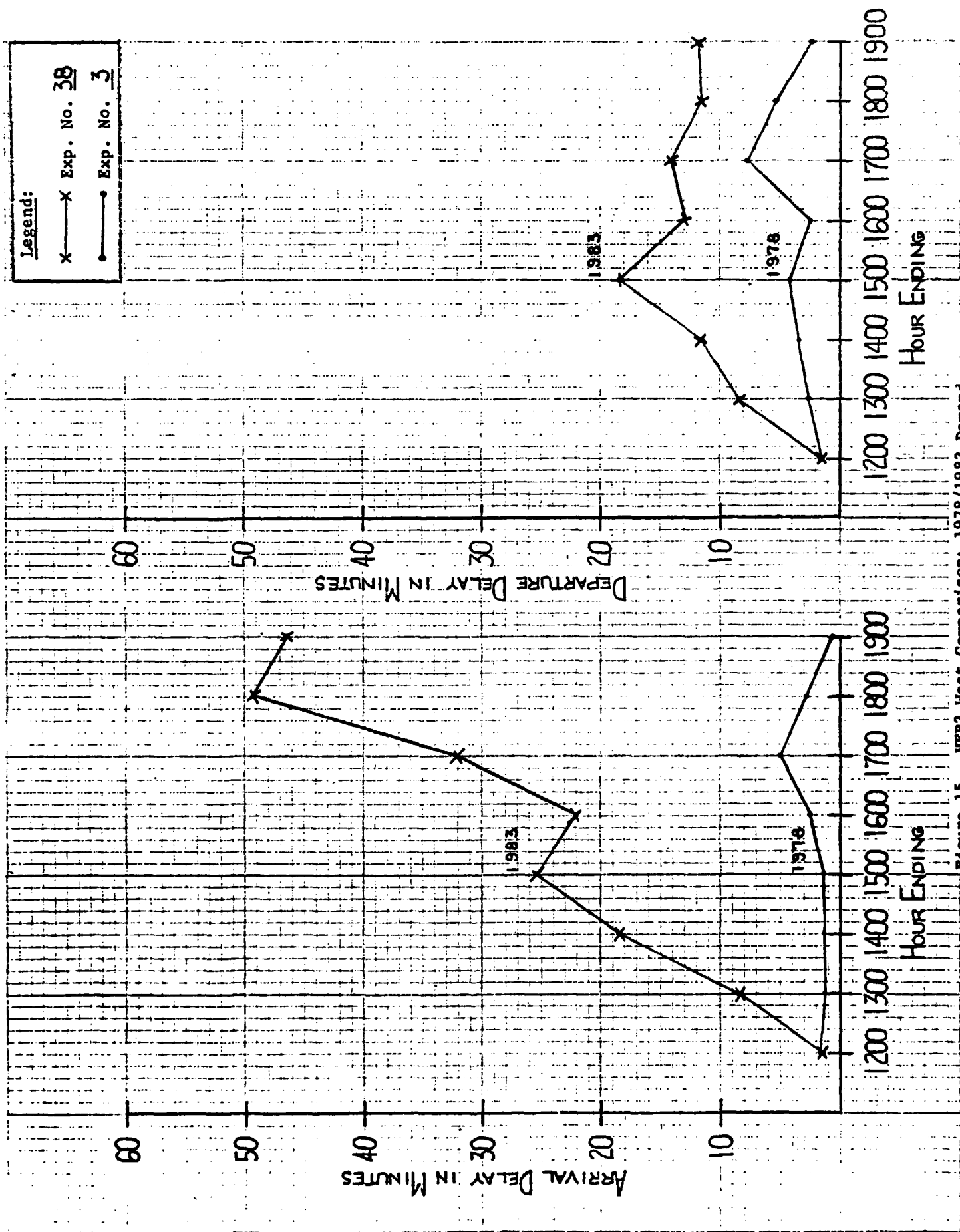


Figure 15. VFR2 West Comparison: 1978/1983 Demand

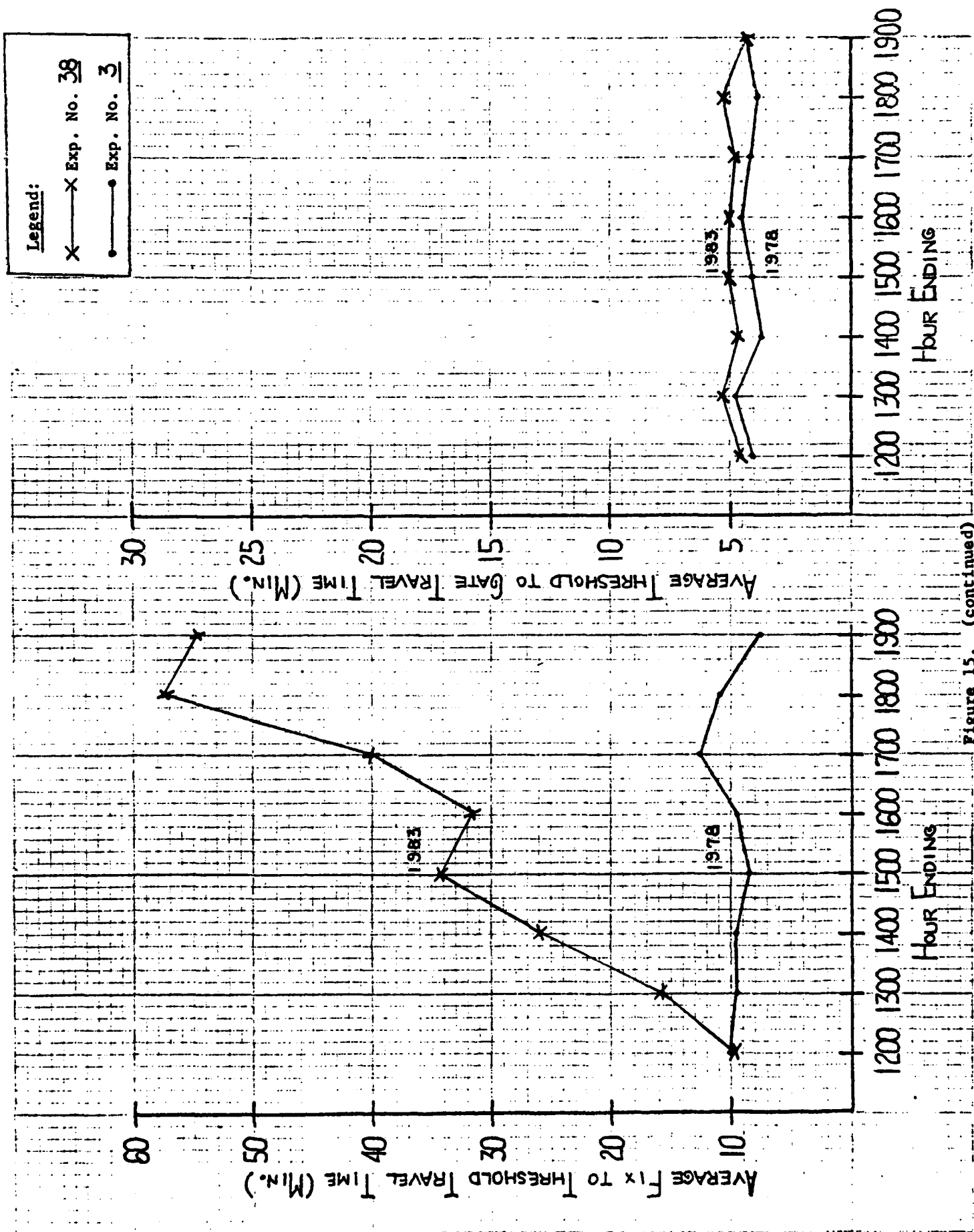


Figure 15. (continued)

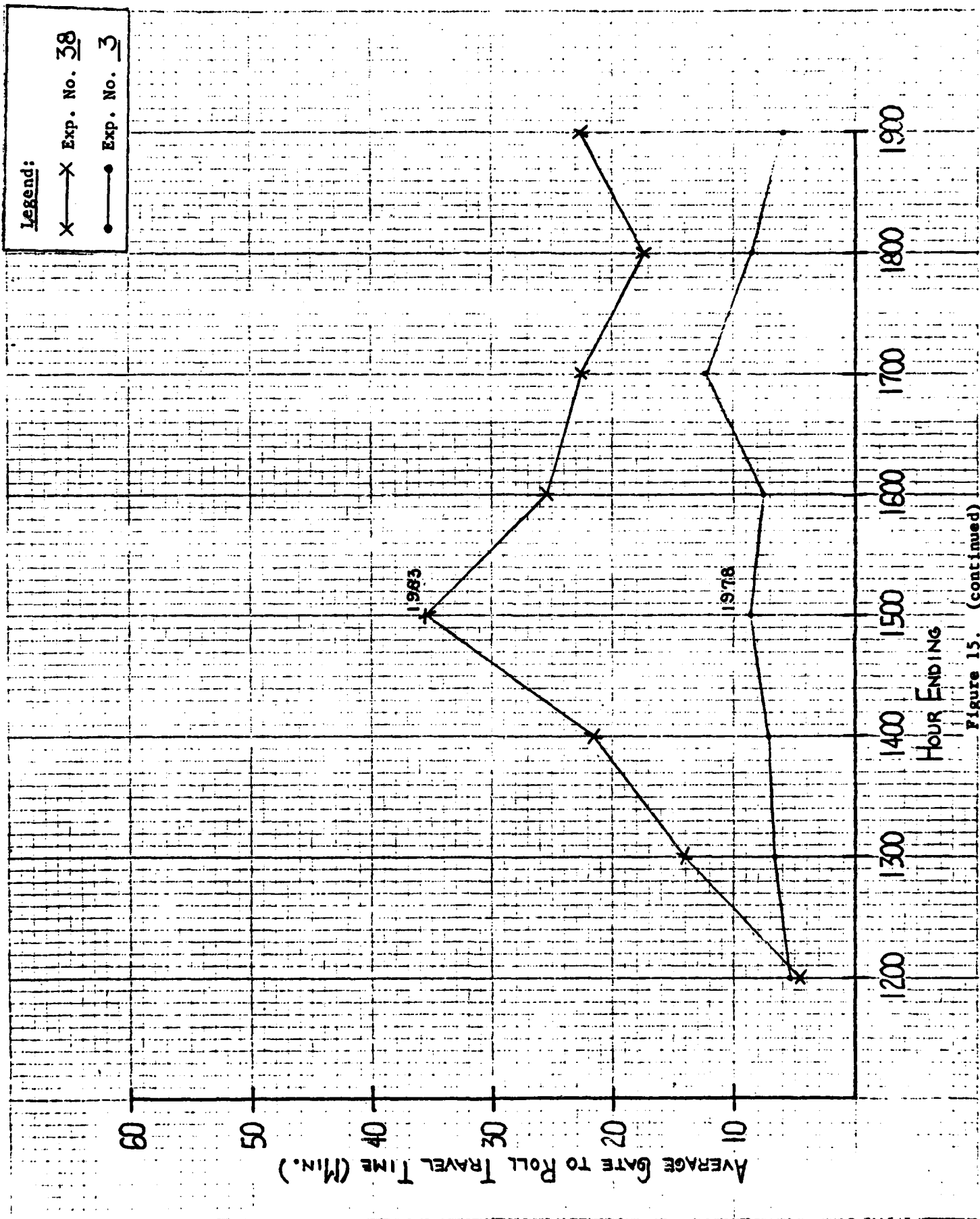


Figure 15. (continued)

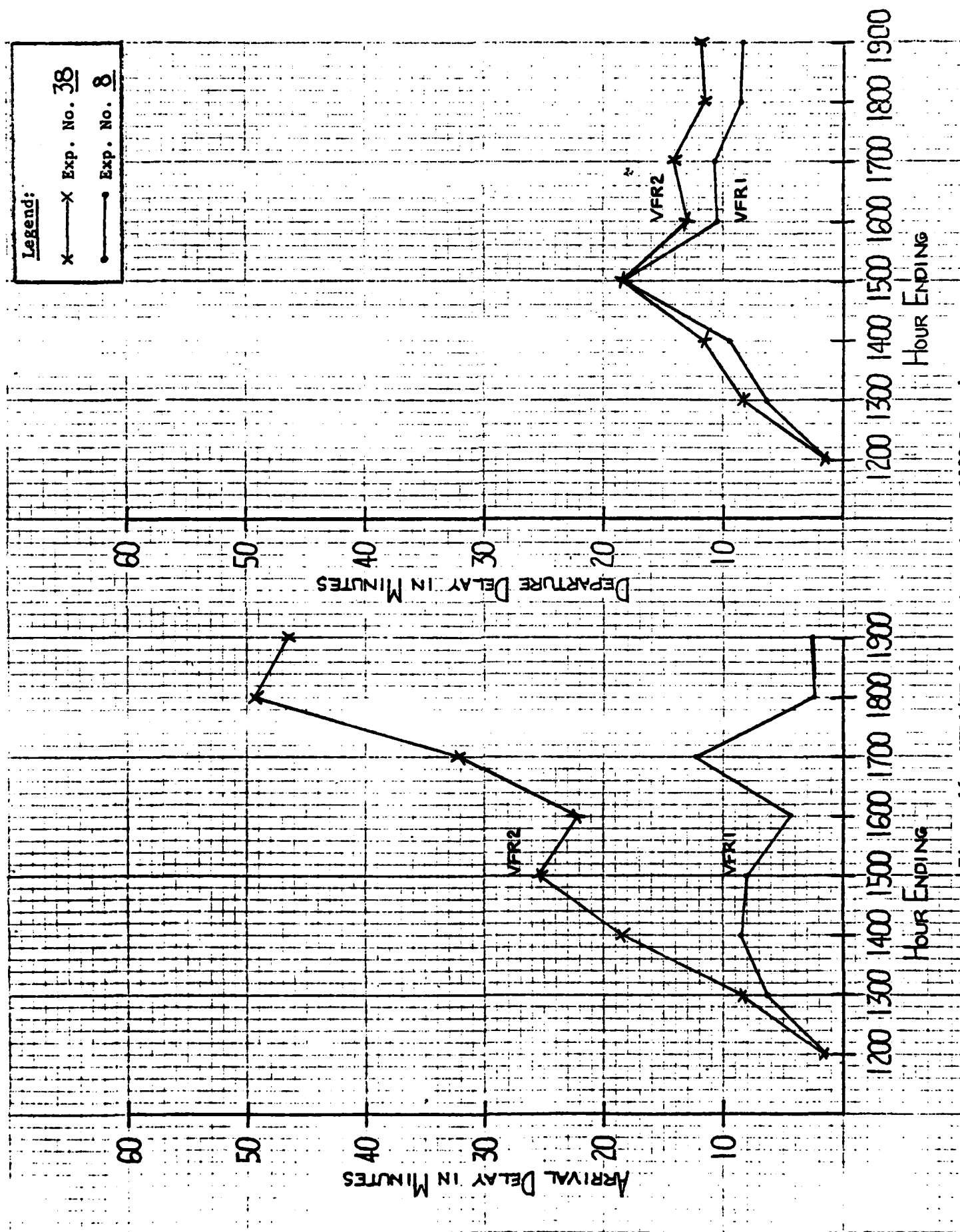


Figure 16. VFR1/VFR2 West Comparison: 1983 Demand

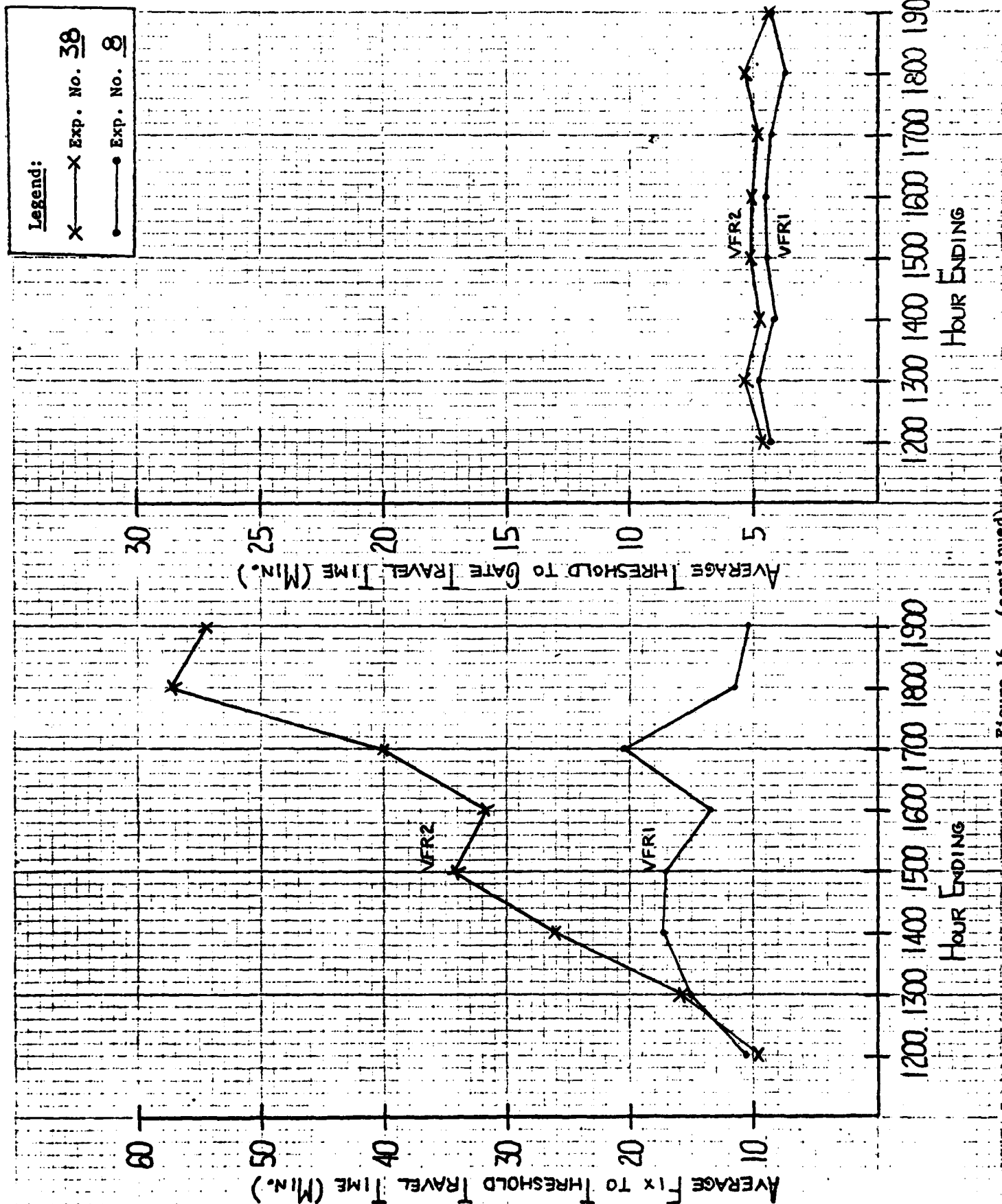


Figure 16. (continued)

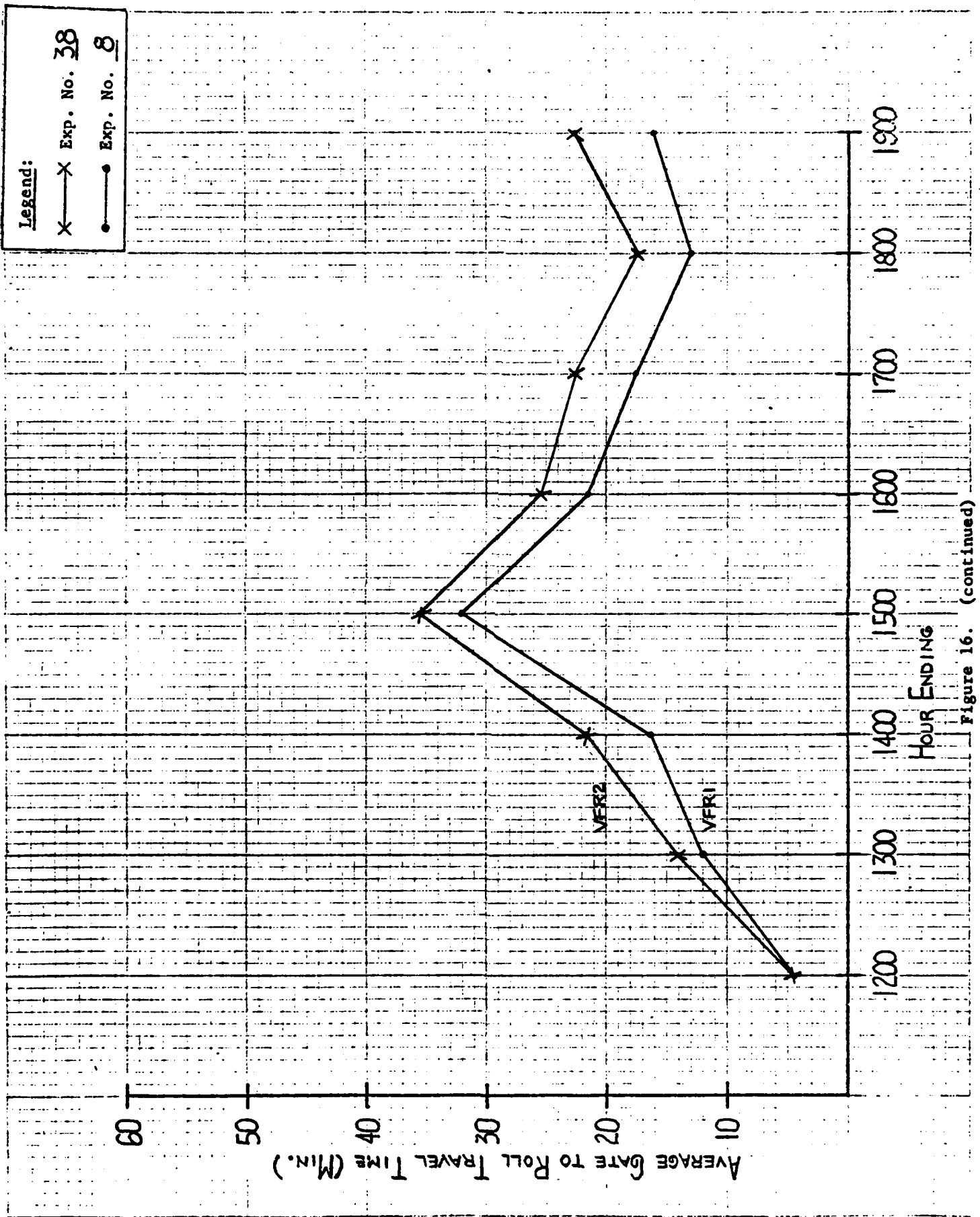


Figure 16. (continued)

TABLE 22

SET - 4 DEMAND
IFR-WESTERLY FLOW

EXPERIMENT NUMBER		RUNWAY 27R	RUNWAY 27L	RUNWAY 30	TOTAL
5 AND 24	ARRIVALS	155	109	0	264
	DEPARTURES	144	125	0	269
	TOTAL	299	234	0	533
39	ARRIVALS	197	150	0	347
	DEPARTURES	165	167	0	332
	TOTAL	362	317	0	679
	ARRIVALS				
	DEPARTURES				
	TOTAL				
	ARRIVALS				
	DEPARTURES				
	TOTAL				
	ARRIVALS				
	DEPARTURES				
	TOTAL				
	ARRIVALS				
	DEPARTURES				
	TOTAL				
	ARRIVALS				
	DEPARTURES				
	TOTAL				

EXPERIMENT NO. 5

Objective:

To obtain baseline delay estimates for the following runway configuration in IFR1 for 1978 demand:

Arrival Runways

27L,27R

Departure Runways

27L,27R

Related Comparison Experiments:

Prior experiment 2 examines this configuration with VFR1 weather and 1978 demand.

Experiment 39 examines this configuration with IFR1 weather and 1983 demand.

Experiment 24 examines this configuration with IFR1 weather, 1978 demand, and 2 mile in-trail staggered parallel approaches.

Data Package No. 5
Miami International Airport
Airport Improvement Task Force Delay Studies
February 1980

TABLE 23

EXPERIMENT 5 RESULTS

MIAMI INTER. AIRPORT EXPER.-5 ROUTES=1978 CONFIG=B SEPAR=781FR1 DEMAND=78

AVERAGE FLOW RATES															
TIME	ARRIVALS				DEPARTURES				AVERAGE TRAVEL TIME						
	RWY 27R	RWY 27L	RWY 30	DIF	RWY 27R	RWY 27L	RWY 30	DE- MAND	DIF	FIX TO THRESH	THRESH TO GATE	GATE TO ROLL			
1100-1200	19.9	18.8	0.0	0.0	0.0	38.7	42.0	-3.3	8.6	5.0	0.0	0.0	13.6	15.0	-1.4
1200-1300	23.3	23.2	0.0	0.0	0.0	46.5	46.0	.5	16.9	16.8	0.0	0.0	33.7	36.0	-2.3
1300-1400	17.0	12.0	0.0	0.0	0.0	29.0	28.0	1.0	21.4	23.2	0.0	0.0	44.6	43.0	1.6
1400-1500	21.5	12.6	0.0	0.0	0.0	34.1	35.0	-9	18.3	12.8	0.0	0.0	31.1	34.0	-2.9
1500-1600	18.3	13.4	0.0	0.0	0.0	31.7	29.0	2.7	13.8	11.2	0.0	0.0	25.0	21.0	4.0
1600-1700	23.1	14.0	0.0	0.0	0.0	37.1	38.0	-9	18.0	12.0	0.0	0.0	30.0	31.0	-1.0
1700-1800	16.9	5.0	0.0	0.0	0.0	21.9	21.0	.9	15.0	22.0	0.0	0.0	37.0	37.0	0.0
1800-1900	14.0	10.0	0.0	0.0	0.0	24.0	24.0	0.0	19.9	11.0	0.0	0.0	30.9	31.0	-1
1900-2000	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	6.1	4.0	0.0	0.0	10.1	9.0	1.1
AVERAGE DELAYS															
TIME	ARRIVALS				DEPARTURES				AVERAGE DELAYS				GRAND TOTAL		
	RWY 27R	RWY 27L	RWY 30	TAX IN	RWY 27R	RWY 27L	RWY 30	TAX OUT	ARR DELAY	DEP DELAY	ARR DELAY	DEP DELAY			
1100-1200	2.0	1.5	0.0	0.0	0.0	1.8	0.0	.1	1.2	3.2	0.0	0.0	1.9	2.9	
1200-1300	5.3	6.1	0.0	0.0	0.0	5.7	0.0	.4	4.8	3.5	0.0	0.0	6.1	5.8	
1300-1400	4.0	.3	0.0	0.0	0.0	2.5	0.0	.1	4.6	4.4	0.0	0.0	2.5	6.1	
1400-1500	2.2	.8	0.0	0.0	0.0	1.7	.0	.0	11.7	.7	0.0	0.0	1.7	8.1	
1500-1600	2.7	1.0	0.0	0.0	0.0	2.0	.0	.6	7.5	1.9	0.0	0.0	2.7	7.4	
1600-1700	6.4	.5	0.0	0.0	0.0	4.2	0.0	.2	4.0	1.5	0.0	0.0	4.4	4.2	
1700-1800	1.7	.8	0.0	0.0	0.0	1.5	0.0	.1	2.7	2.3	0.0	0.0	1.6	2.9	
1800-1900	1.0	.6	0.0	0.0	0.0	.8	0.0	.3	2.9	1.4	0.0	0.0	1.2	3.4	
1900-2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	.8	0.0	0.0	0.0	.5	

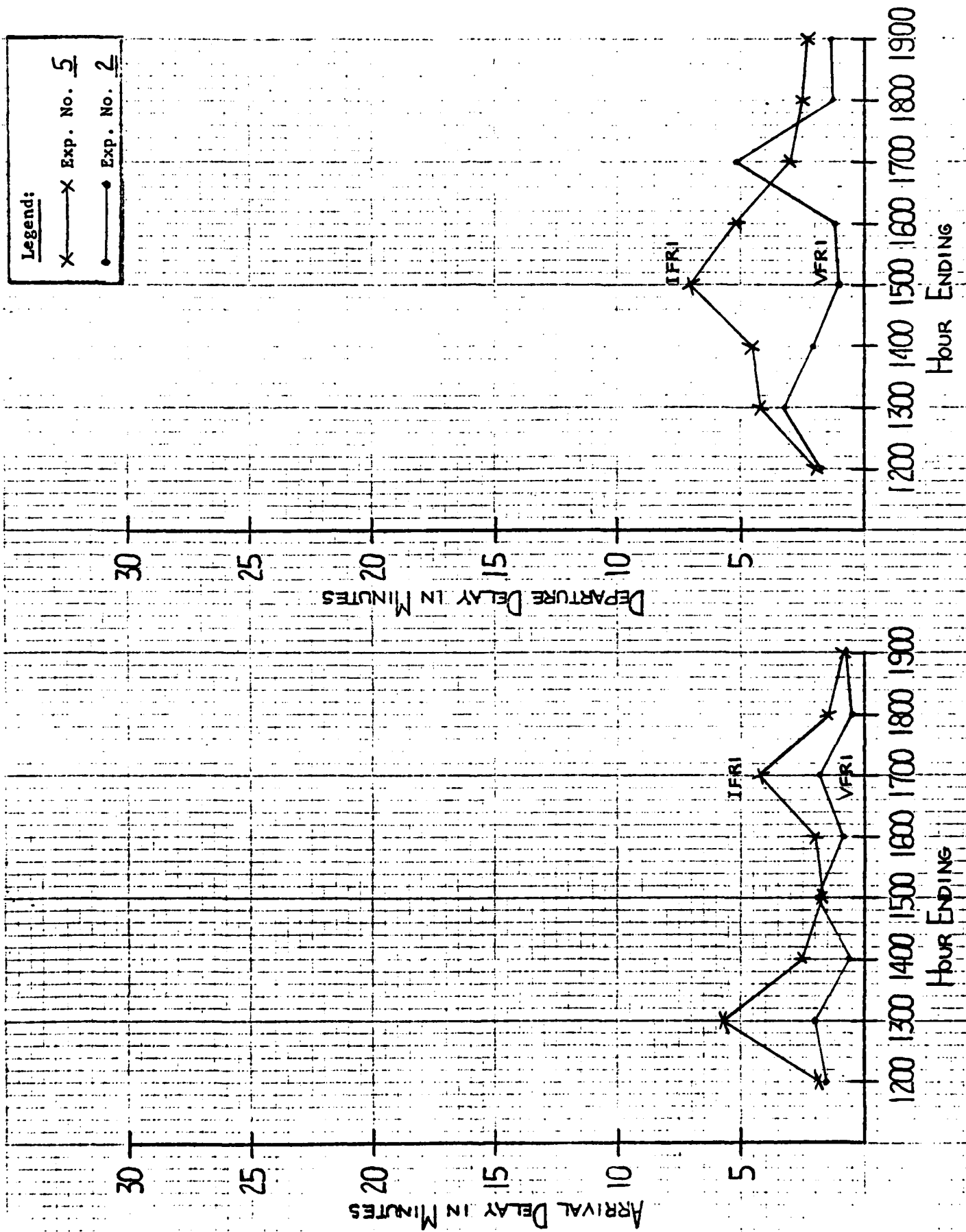


Figure 17. VFR1/IFR1 West Comparison: 1978 Demand

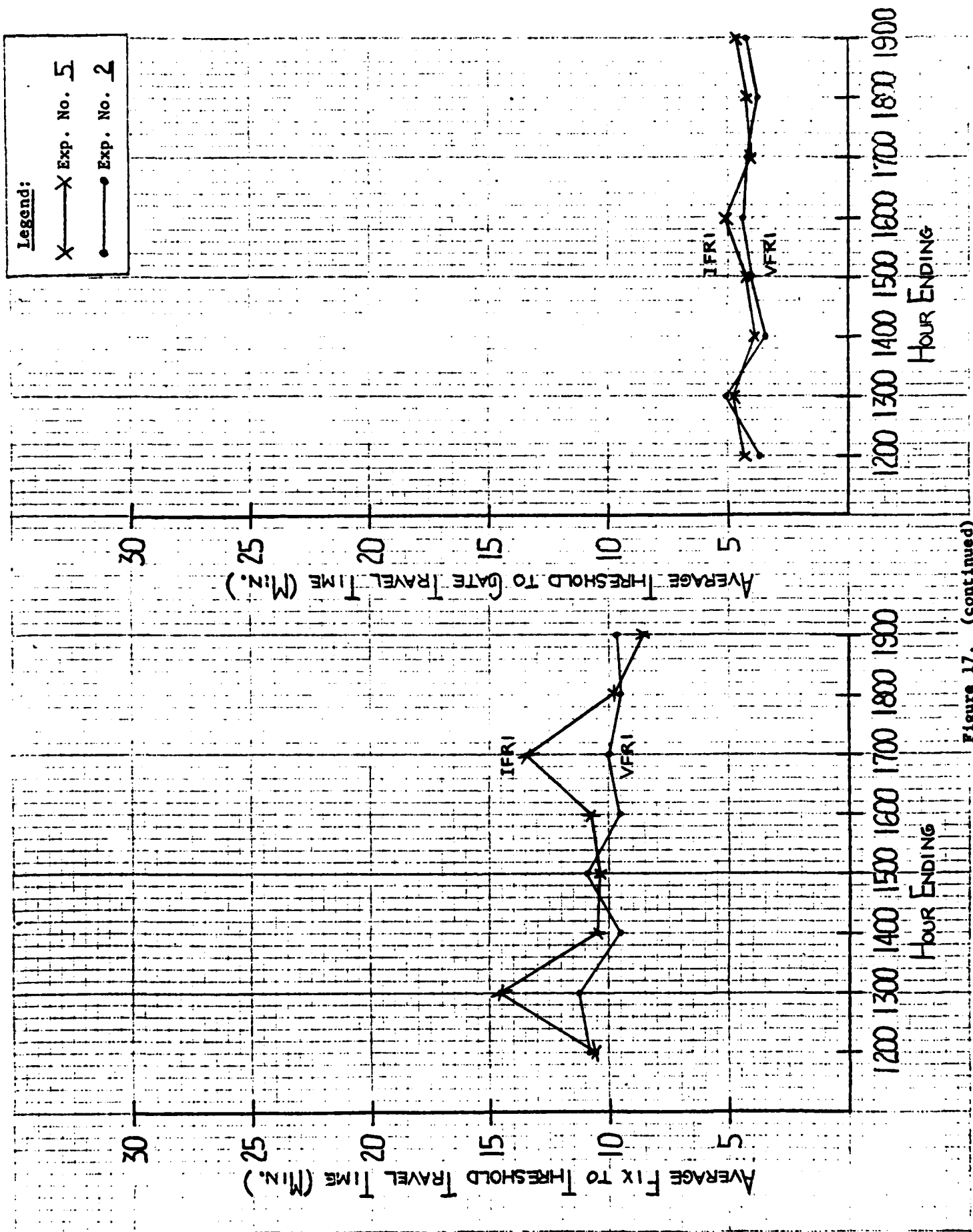


Figure 17. (continued)

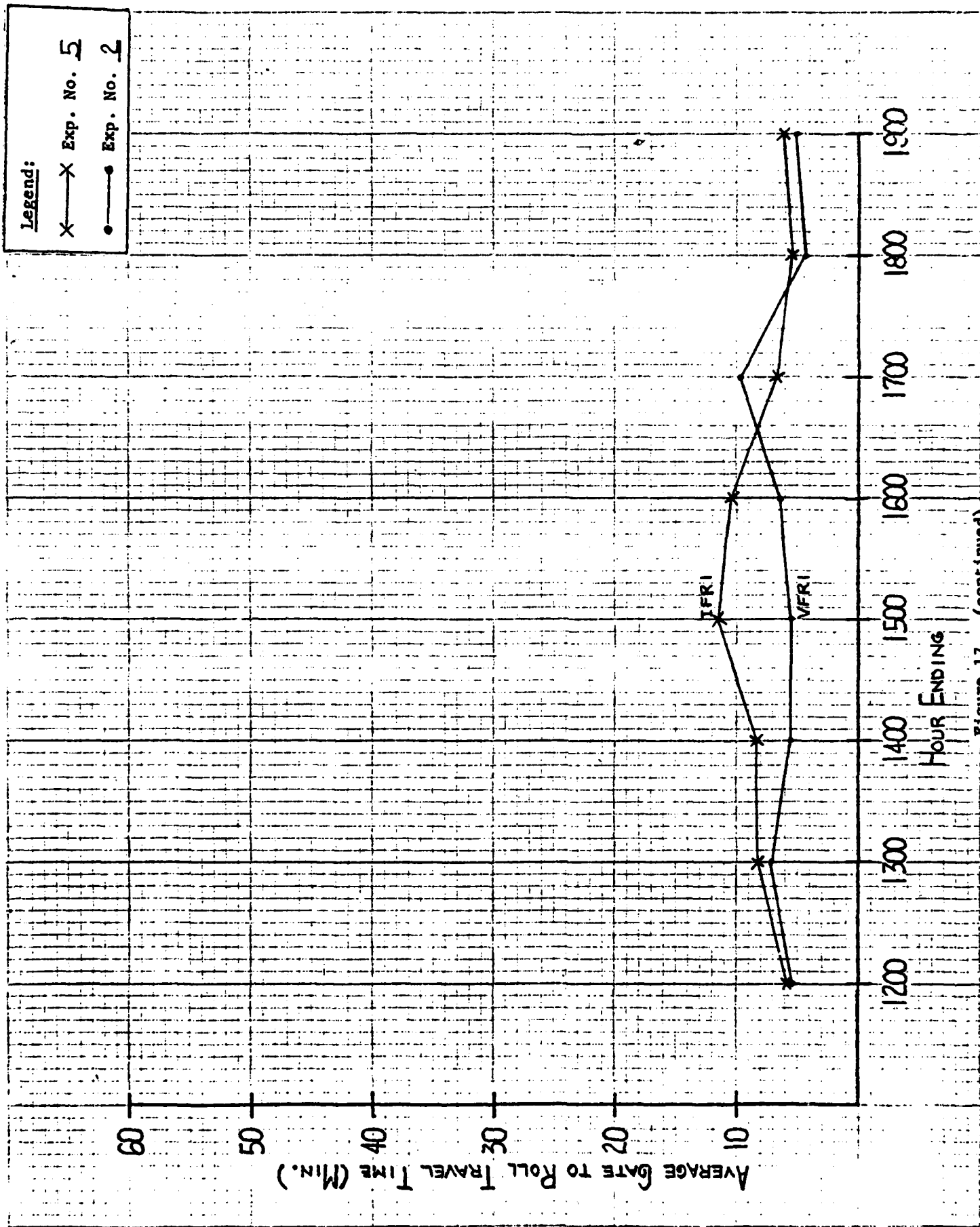


Figure 17. (continued)

EXPERIMENT NO. 39

Objective:

To assess the delay impact to aircraft in 1983 for the following runway configuration under IFR1 conditions, assuming no airport or ATC system improvements have been implemented:

Arrival Runways

27L,27R

Departure Runways

27L,27R

Related Comparison Experiments:

Prior experiment 5 serves as the 1978 demand level baseline for comparison to this experiment.

Data Package No. 5
Miami International Airport
Airport Improvement Task Force Delay Studies
February 1980

TABLE 24

EXPERIMENT 39 RESULTS

MIAMI INTER. AIRPORT EXPER.-39 ROUTES-1978 CONFIG-8 SEPAR-78IFK1 DEMAND-83

AVERAGE FLOW RATES

TIME	ARRIVALS			DEPARTURES			DE- HAND			FIX TO THRESH			AVERAGE TRAVEL TIME		
	RWY 27R	RWY 27L	RWY 30	RWY 27R	RWY 27L	RWY 30	RWY 27R	RWY 27L	RWY 30	THRESH	TO GATE	GATE TO ROLL	TIME	THRESH	GATE TO ROLL
1100-1200	18.7	20.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	18.0	-2.4	12.32	4.57	5.08
1200-1300	25.1	24.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.5	54.0	-19.5	20.50	6.10	14.98
1300-1400	23.6	19.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.5	61.0	-23.5	26.64	5.22	23.83
1400-1500	24.1	16.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.4	32.0	7.4	25.48	15.71	55.35
1500-1600	21.1	21.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.2	39.0	-8.8	29.54	19.92	65.63
1600-1700	17.6	18.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.3	32.0	-1.7	33.97	12.13	70.53
1700-1800	14.9	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.9	64.0	-31.1	40.25	12.86	40.74
1800-1900	14.4	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.5	32.0	-5.5	36.52	6.81	53.67
1900-2000	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.1	0.0	17.1	11.80	2.06	77.85
AVERAGE DELAYS															
	2.9	15.2	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.06	2.06	77.85

AVERAGE DELAYS

GRAND TOTAL

TIME	ARRIVALS			DEPARTURES			DE- HAND			FIX TO THRESH			AVERAGE TRAVEL TIME		
	RWY 27R	RWY 27L	RWY 30	RWY 27R	RWY 27L	RWY 30	RWY 27R	RWY 27L	RWY 30	THRESH	TO GATE	GATE TO ROLL	TIME	THRESH	GATE TO ROLL
1100-1200	4.4	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	.1	.5	3.4	3.4	2.5
1200-1300	17.7	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.6	0.0	2.9	13.7	13.7	12.5
1300-1400	31.2	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.4	0.0	4.1	19.3	19.3	21.0
1400-1500	25.1	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.8	.0	27.8	27.2	27.2	53.0
1500-1600	34.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.7	0.0	21.8	34.9	34.9	63.2
1600-1700	47.1	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.0	.0	25.9	33.4	33.4	67.8
1700-1800	50.5	.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.0	.0	7.7	40.4	40.4	38.1
1800-1900	39.4	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.8	.0	15.2	33.6	33.6	51.2
1900-2000	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.0	0.0	11.5	9.9	9.9	76.0

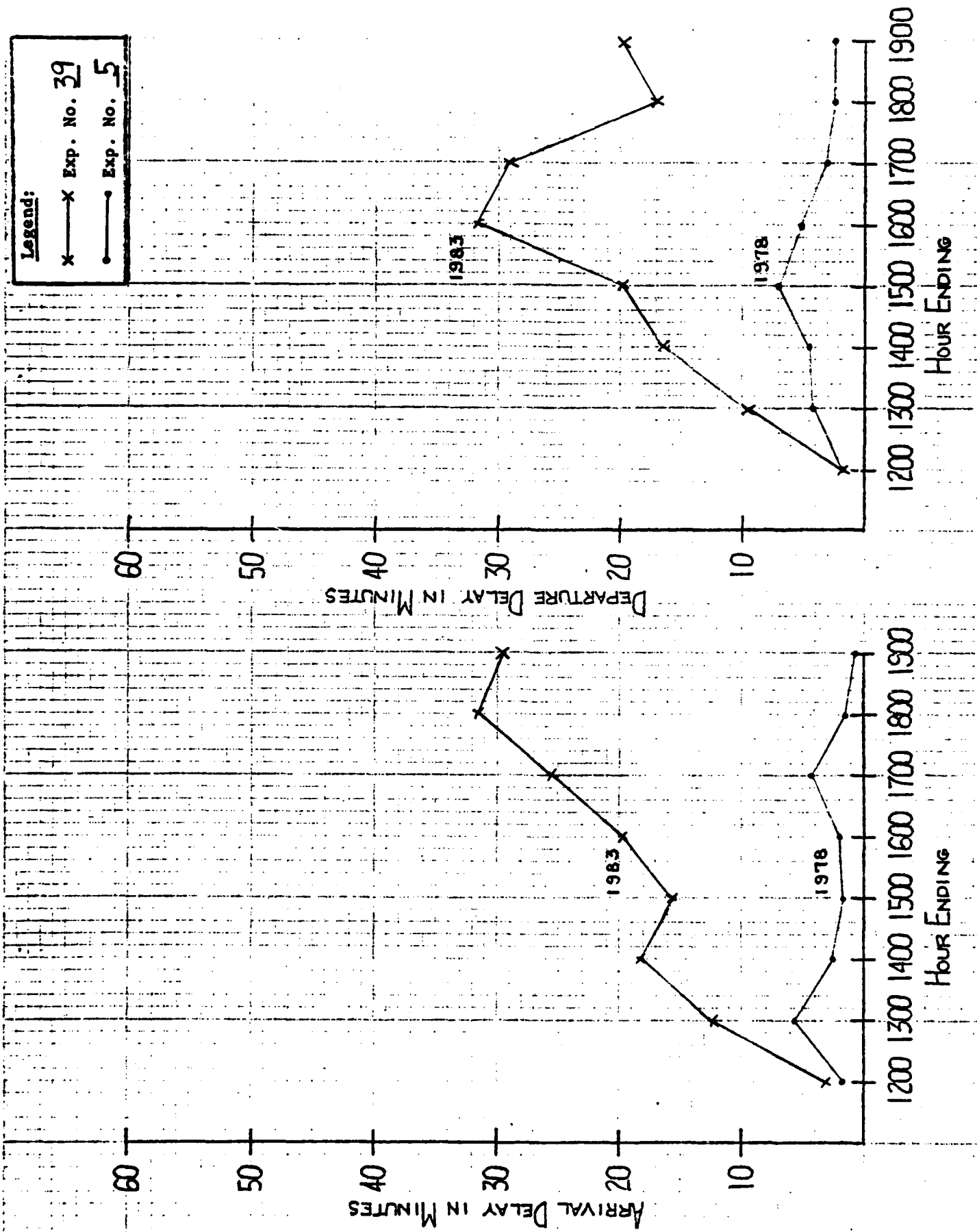


Figure 18. IFR1 West Comparison: 1978/1983 Demand

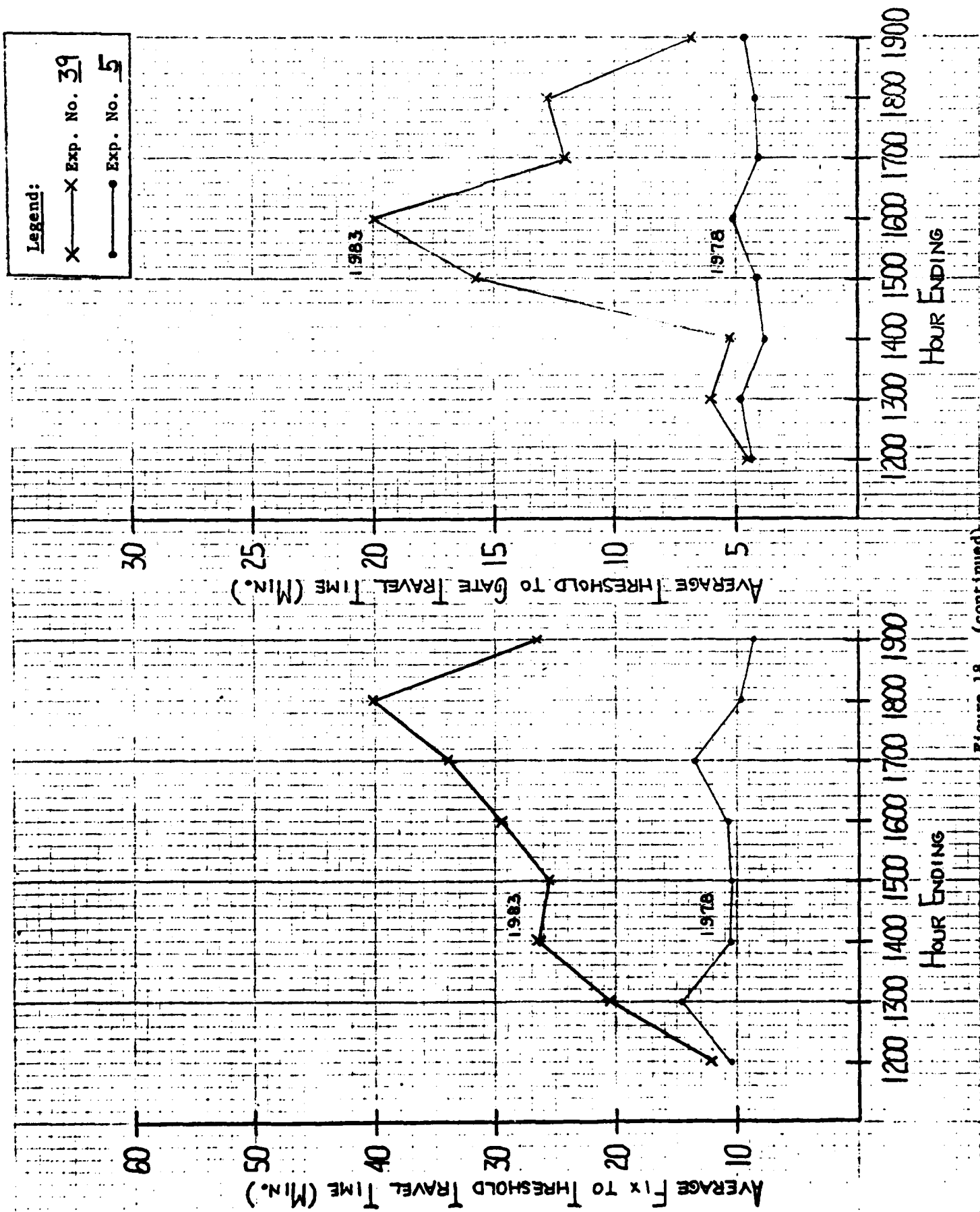


Figure 18. (continued)

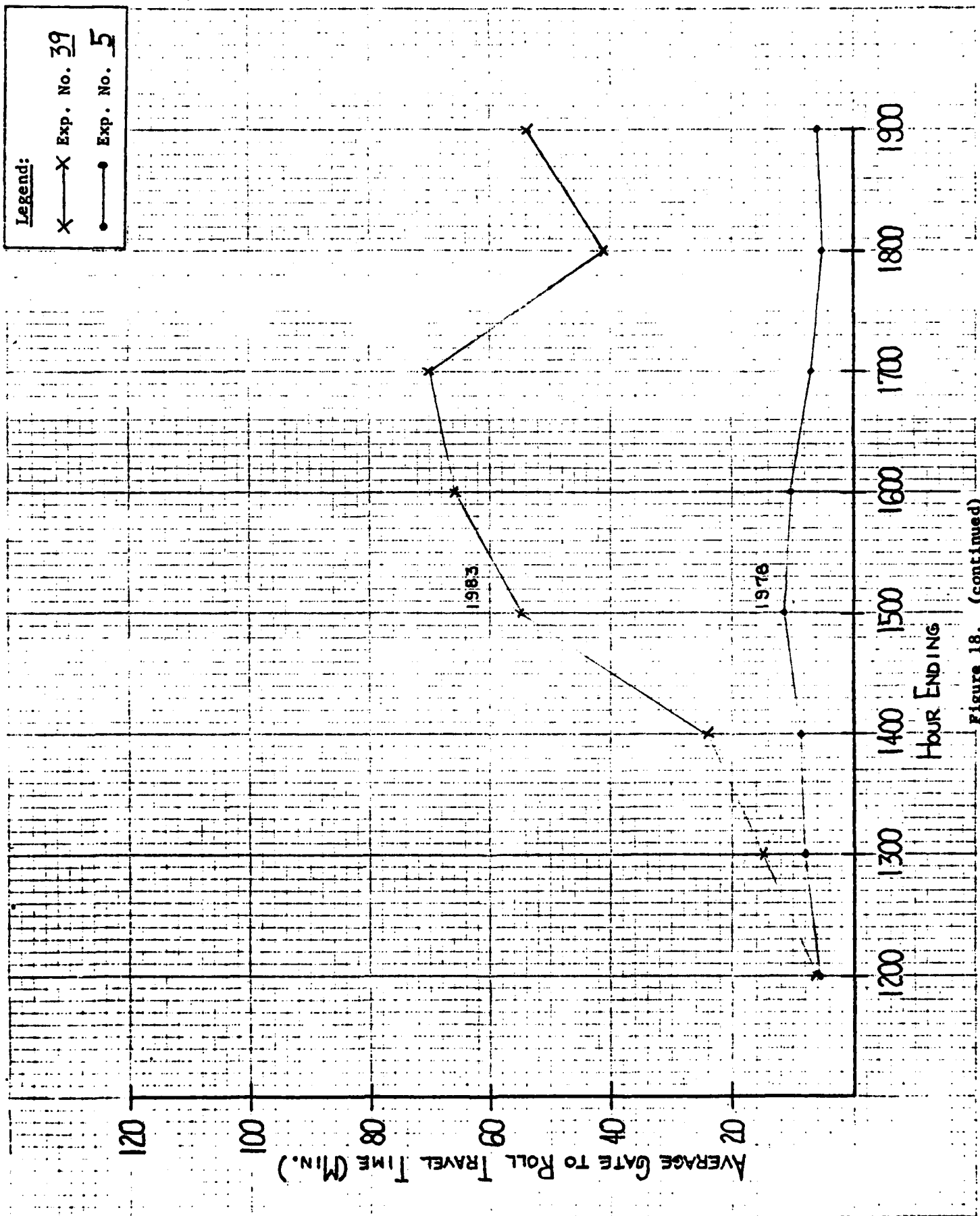


Figure 18. (continued)

EXPERIMENT NO. 24

Objective:

To assess the delay impact to aircraft of using 2 mile in-trail, staggered parallel approaches for the following runway configuration under IFR1 conditions and 1978 demand:

Arrival Runways

27L, 27R

Departure Runways

27L, 27R

Related Comparison Experiments:

Prior experiment 5 serves as the 1978 demand level baseline for comparison to this experiment, wherein the conditions of this study case were identical except for the 2 mile in-trail, staggered parallel approach.

Data Package No. 5
Miami International Airport
Airport Improvement Task Force Delay Studies
February 1980

TABLE 25

EXPERIMENT 24 RESULTS

MIAMI INTER. AIRPORT EXPER.-24 ROUTES=1978 CONFIG=B SEPAR=78IFR1-STAG DEMAND=78

TIME	AVERAGE FLOW RATES										AVERAGE TRAVEL TIME									
	ARRIVALS					DEPARTURES					FIX TO THRESH					GATE TO ROLL				
	RWY 27R	RWY 27L	RWY 30	RWY 27R	RWY 27L	RWY 30	RWY 27R	RWY 27L	RWY 30	RWY 30	DE- HAND	TOT	DE- HAND	TOT	DE- HAND	THRESH	GATE TO ROLL	THRESH	GATE TO ROLL	THRESH
1100-1200	18.3	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.74	4.25	12.74	4.25	12.74
1200-1300	19.1	18.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.91	5.20	25.91	5.20	25.91
1300-1400	18.4	19.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.02	4.83	29.02	4.83	29.02
1400-1500	20.4	12.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.35	4.24	19.35	4.24	19.35
1500-1600	19.6	14.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.60	4.71	18.60	4.71	18.60
1600-1700	20.3	14.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.03	5.15	20.03	5.15	20.03
1700-1800	22.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.83	5.35	24.83	5.35	24.83
1800-1900	13.2	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.88	7.80	9.88	7.80	9.88
1900-2000	.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.55	3.18	8.55	3.18	8.55
	AVERAGE DELAYS										GRAND TOTAL									
TIME	ARRIVALS										DEPARTURES									
	RWY 27R	RWY 27L	RWY 30	RWY 27R	RWY 27L	RWY 30	RWY 27R	RWY 27L	RWY 30	RWY 30	TAX IN	TOT	RUY CRS	TOT	RWY CRS	TAX OUT	RWY CNG	ARR DELAY	DEF DELAY	ARR DELAY
1100-1200	4.9	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	4.1	0.0	4.1	.1	.9	0.0	4.2	3.1	4.2
1200-1300	11.7	22.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.8	16.8	0.0	16.8	.0	1.5	0.0	17.6	8.2	17.6
1300-1400	21.1	20.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.7	20.8	0.0	20.8	.0	1.9	.0	21.5	13.8	21.5
1400-1500	15.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.1	10.3	.0	10.3	.0	5.8	1.7	10.5	24.5	10.5
1500-1600	15.8	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	10.2	.0	10.2	.0	1.9	5.5	10.6	33.0	10.6
1600-1700	17.1	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	10.7	0.0	10.7	.1	3.8	8.2	11.9	37.3	11.9
1700-1800	19.4	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	16.2	0.0	16.2	.0	7.8	20.1	17.6	57.8	17.6
1800-1900	3.4	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	2.4	0.0	2.4	.0	4.2	17.1	6.0	30.8	6.0
1900-2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

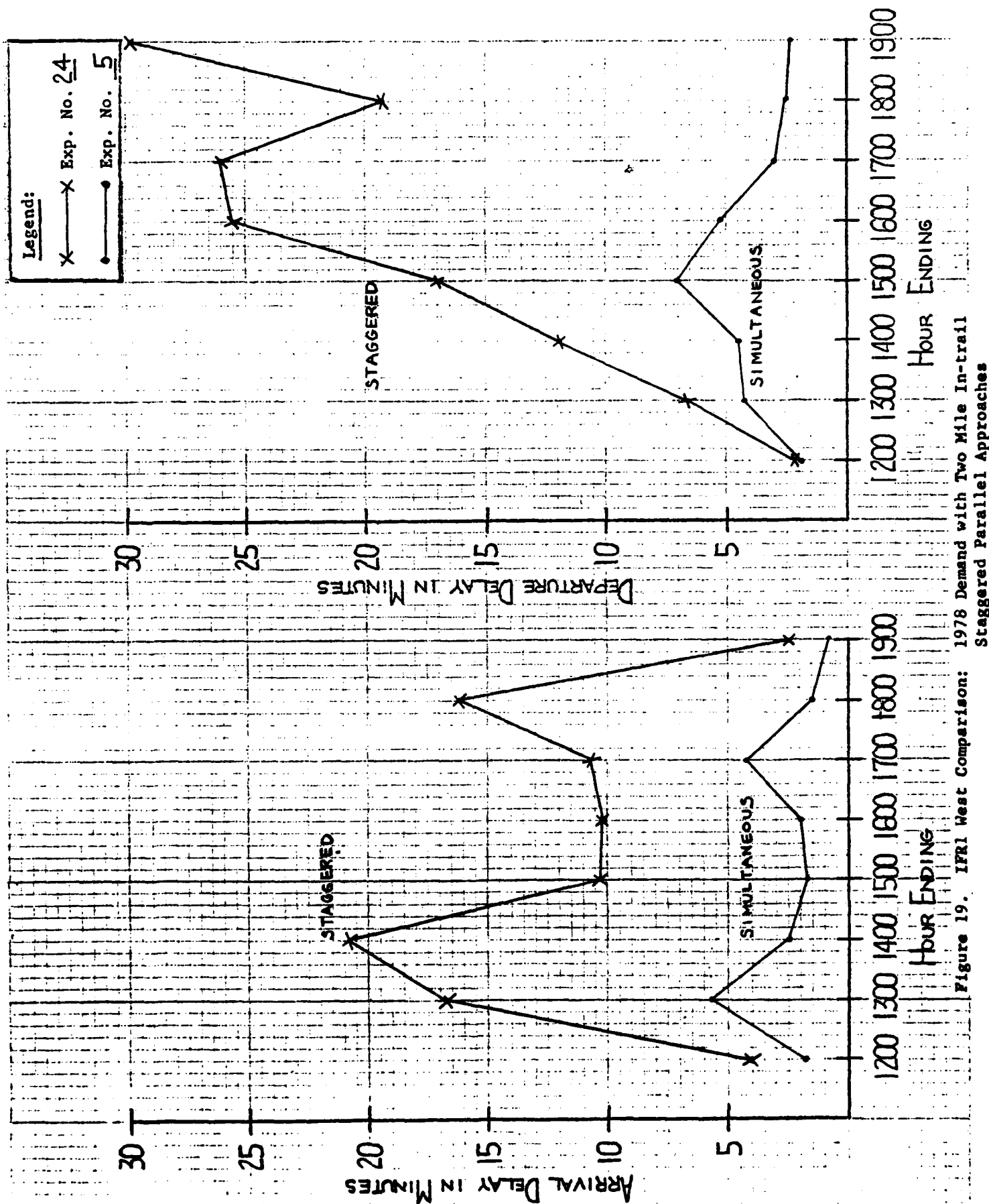


Figure 19. IFR West Comparison: 1978 Demand with Two Mile In-trail
 Staggered Parallel Approaches

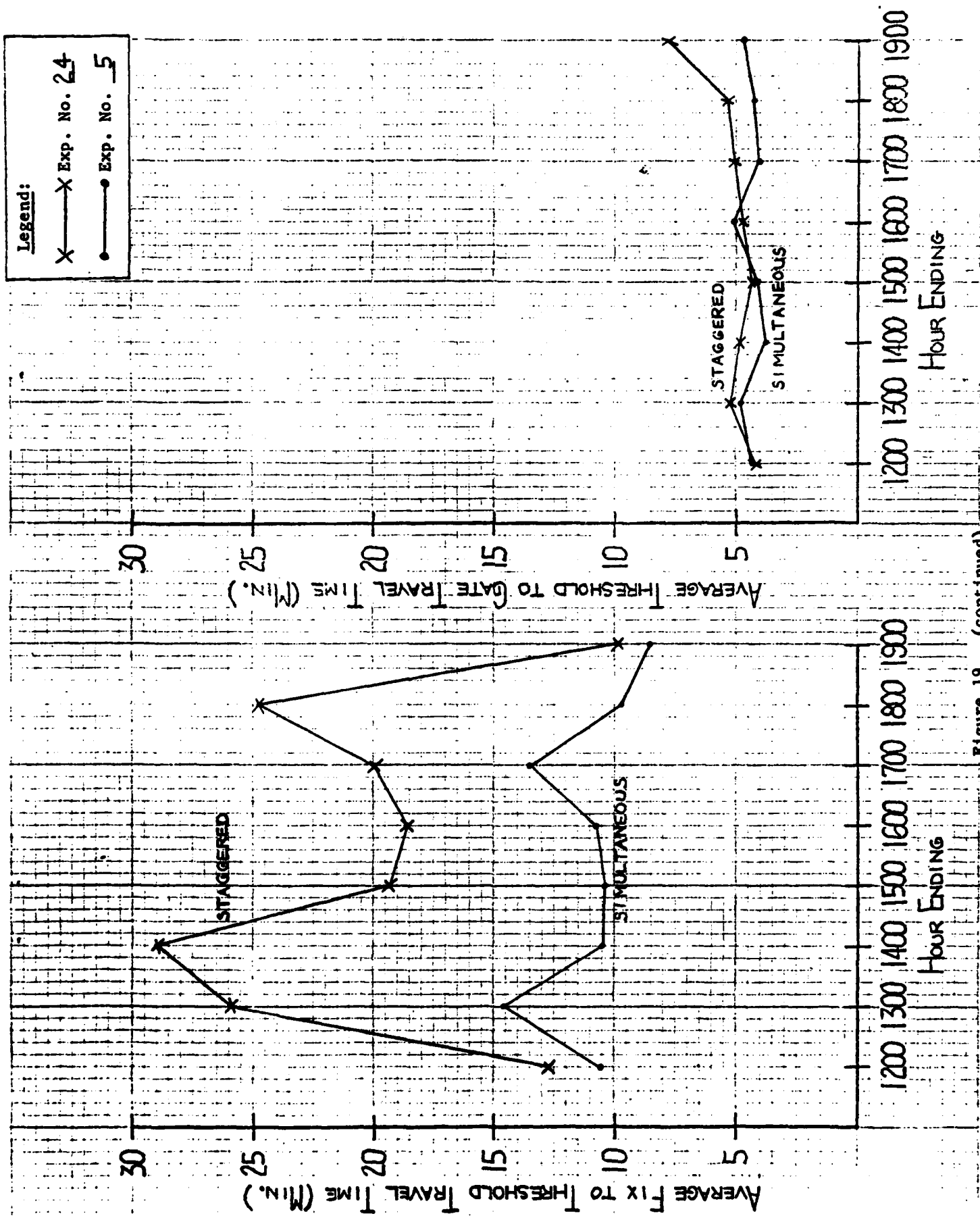


Figure 19. (continued)

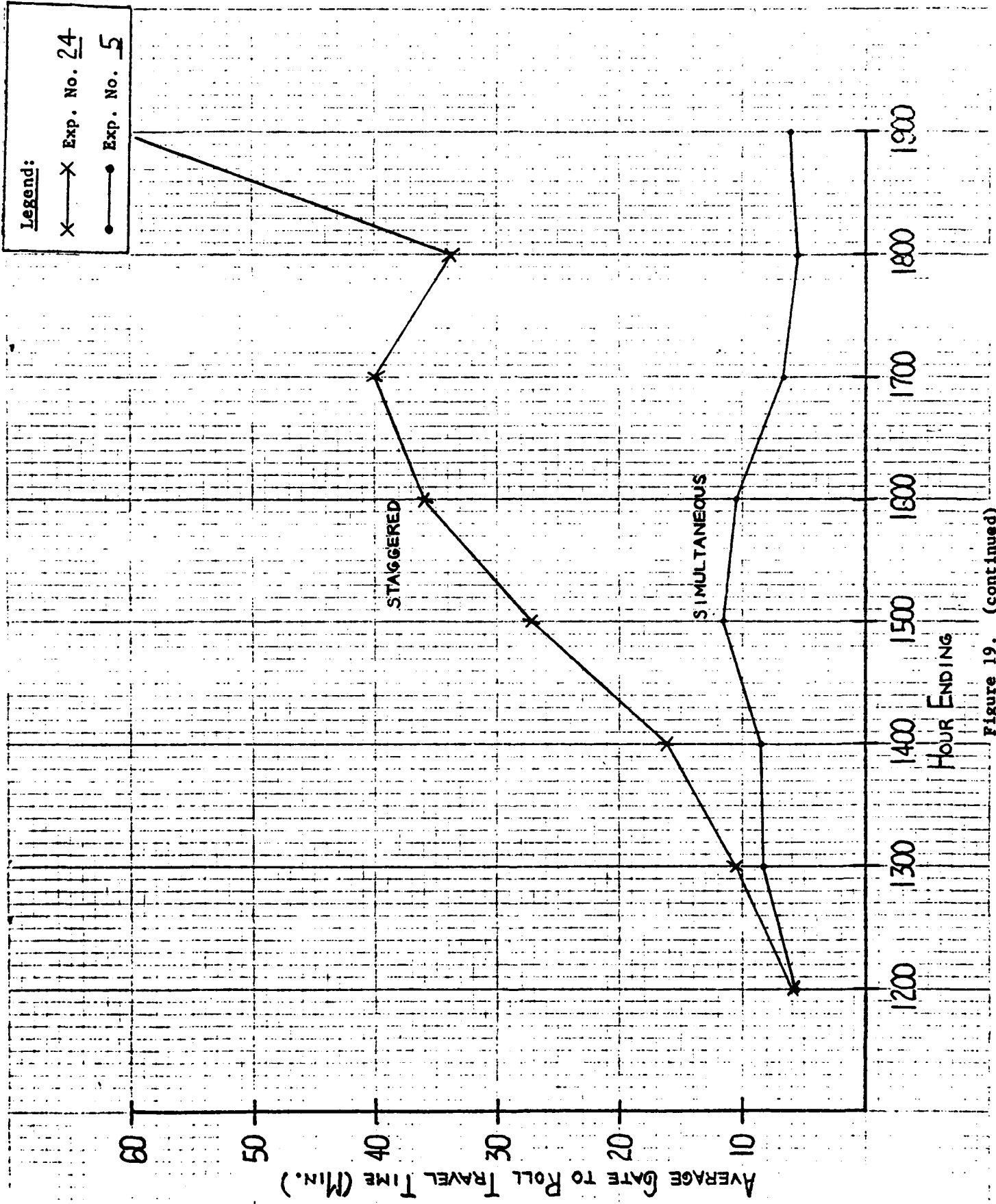


Figure 19. (continued)

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